

The November TECHNOLOGY REVIEW



George A. Walker.

RELATING TO THE MASSACHUSETTS
INSTITUTE OF TECHNOLOGY

technology review

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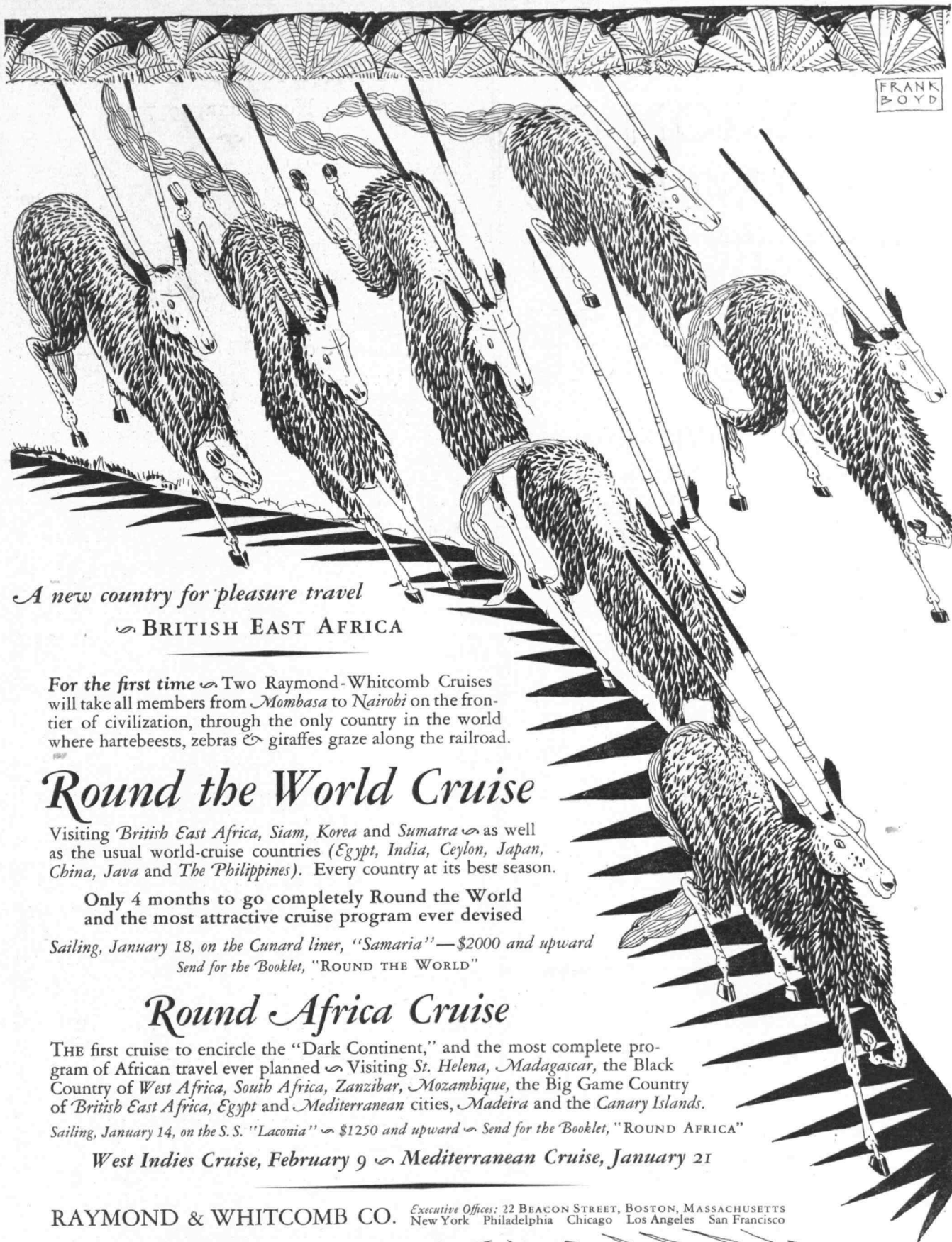
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INDEX OF ADVERTISERS

NOVEMBER, 1927

	PAGE
Alteneider, Theo., & Sons	70
Barrows, H. K.	79
Bernard, Frederick	72
Boit, R. A. & Co.	68
Boston Insulated Wire & Cable Co.	73
Brown & Sharpe Mfg. Co.	70
Buff & Buff Mfg. Co.	77
Cassedy, James	74
Chase & Gilbert	76
Clapp, Frederick G.	79
Coburn, Kittredge & Co.	72
Desmond, T. C. Inc.	77
Dike, George P.	79
Division of Industrial Coöperation & Research	2
Downey Company	74
Dunham, C. A. Co.	64
Duraflex Company	74
Eadie, Freund & Campbell	79
Emery, Booth, Janney & Varney	79
Farrington Company	72
Fay, Spofford & Thorndike	79
Finchley, Inc.	69
Fitch, Stanley G. H.	79
Foundation Company	80
Frost, George Co.	68
General Electric Co.	Cover II
General Radio Co.	73
Goodrich, E. L.	68
Gow Company	74
Harvard Coöperative Society	Back Cover
Holman, Mary L.	79
Indiana Limestone Co.	67
Jackson & Moreland	79
John Hancock Life Insurance Co.	68, 73
Johnson, Charles H.	72
Johnson Service Co.	65
Maher, Philip F.	79
Main, Charles T.	79
Manhattan Rubber Mfg. Co.	70
Massachusetts Institute of Technology	Cover III
Merrimac Chemical Co.	77
Metcalf & Eddy	79
Murray Printing Co.	73
Old Colony Trust Co.	66
Raymond & Whitcomb	1
Rugo, Joseph & Sons	75
Scientific American	78
Shaw, Frank R.	79
Shea & Donnelly	74
Simplex Wire & Cable Co.	3
Starkweather & Broadhurst	79
Stone & Webster	4
Sullivan, Jeremiah & Sons	74
The Tech	77
The Technology Review	77
Thomas, Percy	79
Vanderbilt Hotel	71
Western Electric Co.	63
Wilson, J. G. Corp.	70
Wires, E. Stanley Co.	74

Although every precaution is taken to insure accuracy, The Review cannot guarantee against the possibility of an occasional change or omission in the preparation of this index.

The TECHNOLOGY REVIEW

Relating to the Massachusetts Institute of Technology

VOLUME XXX

NUMBER I

Contents for November, 1927

The Trend of Affairs	5
Shifting Skylines	16
Editorials	18
Westward Ho!	
By Albert F. Hegenberger, '17	19
Science and Political Science	
By Charles A. Beard	24
Undergraduate Affairs	26
News from the Classes	31
News from the Alumni Clubs	59
Books	61

Two Heretics, by L. Magruder Passano; Places and People; The Houses We Live In, by Robert C. Dean, '26; An Economist On Oil, by David L. Fiske, '20; For the Radio Fan, by James K. Clapp, '23; Compendium, by W. H. Strain, '26; In Tabloid.

Cover Etching,

"The W. I. Trade," by George C. Wales, '89. Courtesy, Charles E. Goodspeed & Company.

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READ ITEM

*"Of Interest to
Technology Men"*

ON PAGE 68 OF THIS ISSUE

SIMPLEX CABLES

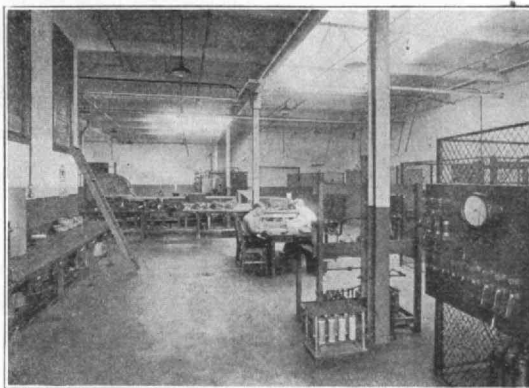


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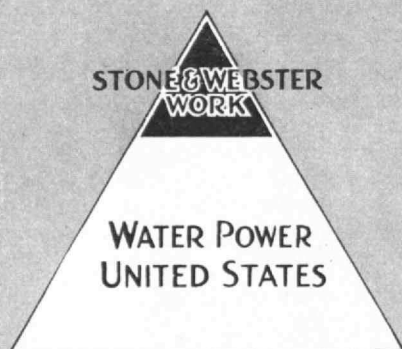
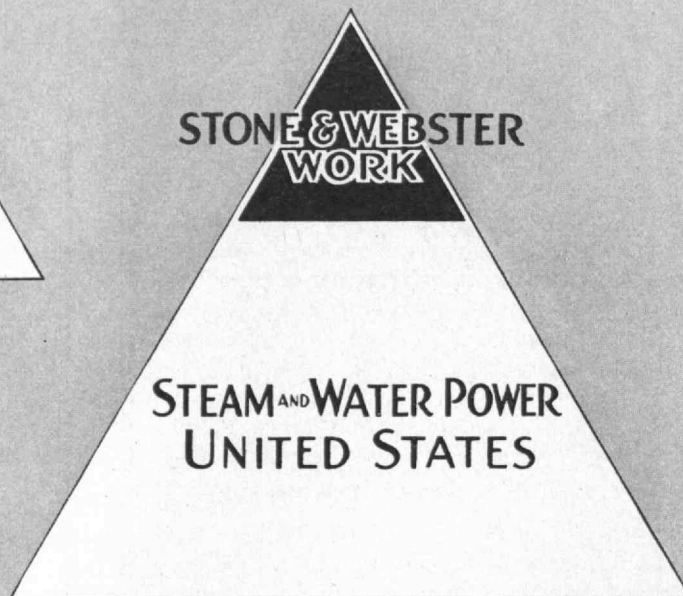
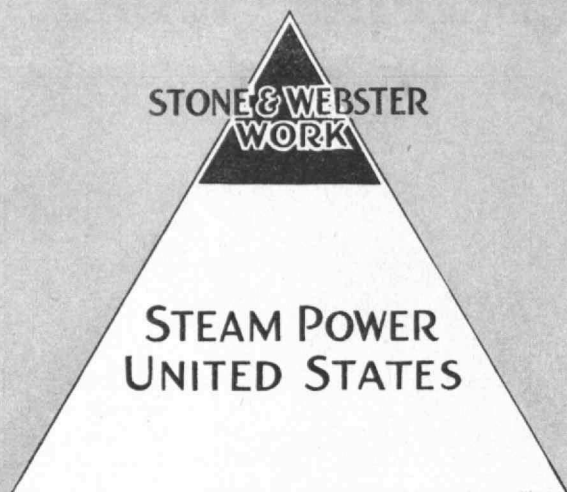
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The TECHNOLOGY REVIEW

VOLUME 30

NOVEMBER, 1927

NUMBER I

The Trend of Affairs

FIVE successive autumns, since the post-war peak of 1921, have witnessed a decline in the Institute's registration, but the present enrollment of 2,672 is 49 greater than that of a twelvemonth ago. Most encouraging is the increase of 88 or 17.35 per cent in the freshman class. These 88, together with 7 more sophomores and 28 more graduate students, offset 14 fewer juniors, 56 fewer seniors and 4 fewer unclassified students, leaving the favorable balance of 49. The numbers in each grouping are: freshmen, 595; sophomores, 542; juniors, 589; seniors, 573; graduate students, 347; unclassified, 26.

The newly created Course in Building Construction, numerically known as "XVII," which as yet has no senior class, has 64 registered in its first three undergraduate years. Aëronautical Engineering, now in its second year, has 60 freshmen, 45 sophomores, 33 juniors, 12 seniors, and 13 graduate students, or 163 in all against 70 a year ago. It shows both numerically and on a percentage basis the greatest gain and is now the seventh largest Course, being exceeded only by Electrical Engineering with 550, Engineering Administration with 306, Mechanical Engineering with 302, Chemical Engineering with 296, Civil Engineering with 232, and Architecture with 179.

The five courses showing greatest gains over 1926-27, in addition to Aëronautical Engineering, are: Architecture, 37 students or 26 per cent; Biology and Public Health, 20 or 64.5 per cent; Chemical Engineering, 17 or 6.1 per cent; Physics, 12 or 42.9 per cent. The five courses

showing greatest losses are: Electrical Engineering, 73 students or 11.7 per cent; Civil Engineering, 45 or 16.25 per cent; Mechanical Engineering, 24 or 7.4 per cent; Architectural Engineering, 21 or 19.1 per cent; General Engineering, 15 or 34.2 per cent.

The Dormitory Campaign

DEAN Alfred E. Burton again gives encouraging news of the progress of the Dormitory Fund Campaign directed by him. Notable among contributions to date are three, one each from the Classes of 1868, 1875 and 1877 providing for single rooms. That these early classes of such small membership and so far removed in years from Institute life should thus set an example for other classes bodes well.

Dr. Burton also announces that eight other classes have definite campaigns on to raise funds for an entire floor, or a room apiece. In addition several alumni clubs and groups of clubs are raising money. So the campaign moves apace toward the goal of a complete quadrangle of dormitories.

Changes

PROFESSOR Charles L. Norton, '93, Head of the Department of Physics and Director of the Division of Industrial Coöperation and Research, became Chairman of the Faculty as of July 1. He succeeded his classmate, Professor Charles M. Spofford, who was Chairman during 1925-26 and 1926-27. Professor Allyne L.



From a dry-brush drawing by Kenneth Reid, '18
LT. ALBERT F. HEGENBERGER, '17

As senior officer and aviator he flew with Lt. Lester J. Maitland on the first non-stop flight to Hawaii. See his article describing the flight on page 19

Merrill, '85, was again chosen Secretary of the Faculty, his twenty-first reelection to that office, he likewise taking office as of July 1.

Charles L. Porter, '02, from 1904 until 1909 Assistant under Professor Harry E. Clifford, '86, in the Institute's Department of Electrical Engineering, returns this fall as Associate Professor of Accounting in the Department of Economics and Statistics. Professor Porter was graduated from Brown University in 1900 and two years later from Technology. He served as Comptroller of the McElwain Shoe Company and, more recently, of the Cambridge Gas Company.

Major Robert C. Eddy, C. A. C., has been assigned to the Institute as Executive Officer of the Department of Military Science and Statistics with the rank of Assistant Professor. He was graduated successively from the United States Military Academy in 1905, from the Coast Artillery School in 1911, from the Command and Staff School at Ft. Leavenworth, Kans., in 1923, and from the Army War College in 1926.

One promotion in the Faculty has been announced: Edward L. Bowles, S. M. '22, since 1925 Assistant Professor of Electrical Communications, has been advanced to the grade of Associate Professor.

Flights over the briny deep is the lure held out by the Institute's new Naval Reserve Officers' Training Corps. Under agreement with the Navy Department this opportunity is to be open only to students in the Course in Aeronautical Engineering who have had the necessary preliminary military training, rank academically in the upper half of their class and are physically fit.

Students selected for flight training will be enlisted as seamen and sent to the Naval Reserve Training

Station at Squantum, Mass., for a period of forty-five days during the summer vacation following their sophomore year. Lieutenant Walter F. Eade, U. S. N. R., a Research Associate in the Course in Aeronautical Engineering, will supervise this new Naval R. O. T. C.

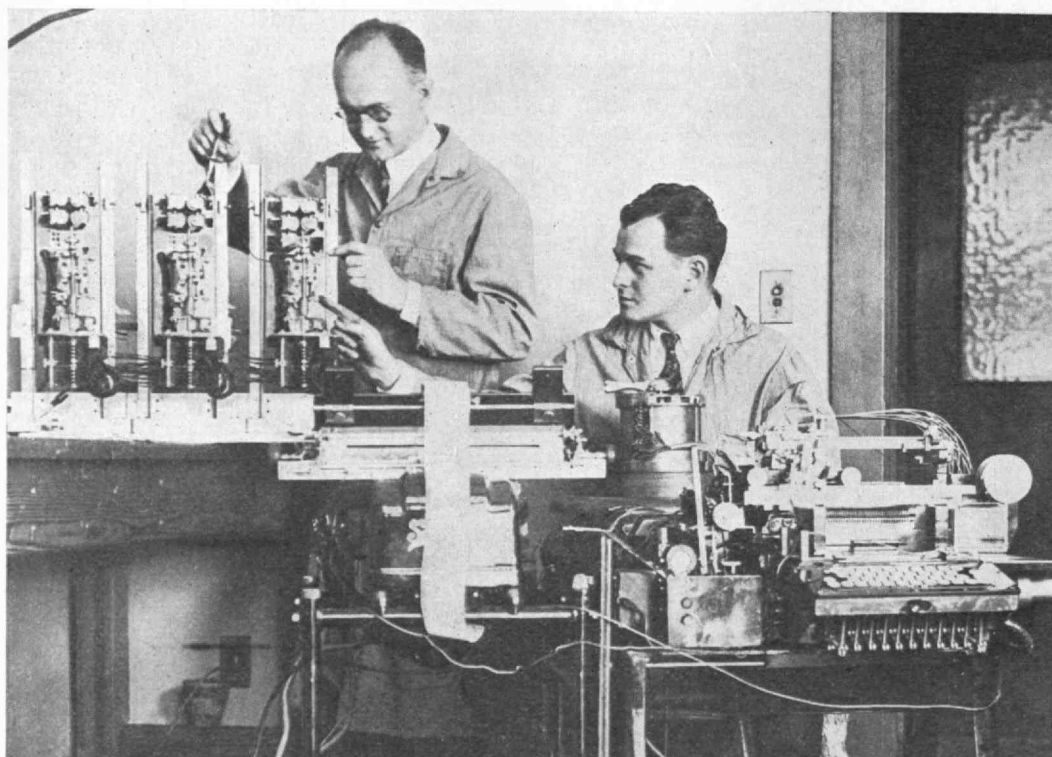
Electric Mathematician

EVEN as intricate mechanical devices make easy arithmetical computations for the abacist, a new instrument integrates or solves complicated differential equations for the mathematician which heretofore were either unsolvable or, at best, necessarily attacked by arduous cut-and-try methods. Problems in civil, mechanical, aeronautical and electrical engineering have been solved with good engineering accuracy by the "Product Integrator." It has been under development for the last few years in the Institute's Research Laboratory of Electrical Engineering by Professor Vannevar Bush, '16; Frank G. Kear, G; Harold L. Hazen, '24; Herbert R. Stewart, '24, and Francis D. Gage, '22.

Integration is a mathematical summing-up process, the household watt-hourmeter invented by Elihu Thomson being a simple example. Were the power consumer to record, at frequent intervals throughout the month, the number of burning lights, plot these data on paper, and submit the graph to the Integrator, he would receive, as a solution, another graph showing him how much he owed for electricity as the month advanced — the same information that regular reading of the meter would give him.

The Integrator actually uses the watt-hourmeter in integration process. Before each of the four operators

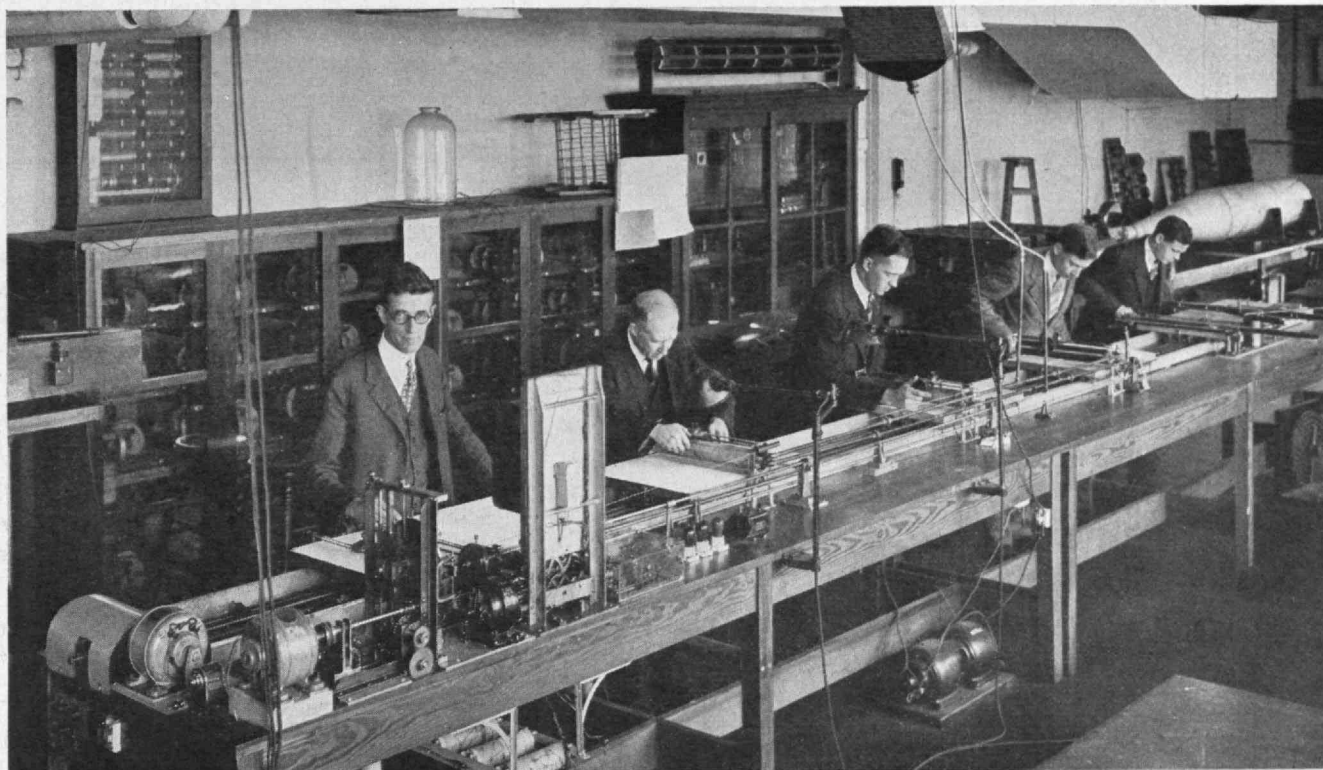
(on the right in the photograph on page 7) there moves a table carrying a graph which represents a single aggregate of facts in the stated problem. With a tracer point whose movement operates an electrical rheostat, each one follows the curve as it slides by him, the energy absorbed by the rheostat being made to operate a watt-hourmeter, which, in turn, moves a pencil on the fifth, or recording table. Thus is the integration of a complicated differential equation traced out — the position of the tracer point on each moving table corresponds to the



BOOKKEEPING BY ELECTRICITY

Louis F. Woodruff, 2d, '18, Assistant Professor of Electric Power Transmission and Edward Rogal, '18, making final tests on an electrical maid-of-all-work recording and bookkeeping device

P. and A.



George H. Davis

INTEGRAPH

The Product Integrator being operated by Professor Vannevar Bush, '16, Walter F. Kershaw, Frank G. Kear, G. Harold L. Hazen, '24, and Murray F. Gardner, '24. The Ford radiator is an essential part of the machine, helping to keep constant the temperature of the rheostats

"number of lights"; the motion of the table, to the lapse of time in the example of the power consumer's electricity meter above described.

But the Product Integrator can do much more. By means of a mechanical arrangement it integrates the result of the first integration and plots it on the recording table. All five of the tables are dragged along at the same rate, the displacement representing, for example, elapsed time. For complicated work, however, a "back coupling" mechanism can be made to drive one or more of the tables at a rate depending on the result of either the first or second integrations. These features make possible the solution of almost any second order total differential equation. To the mathematician and many engineers it means much, for into this class of equation fall many highly complicated problems in dynamics, structural design, ballistics, and electric circuits.

The Product Integrator is an important engineering advance, but however much it helps the research engineer it will in no way lighten the burdens of the adolescent sophomore embroiled in the mazes of the integral calculus and differential equations, any more than the invention of the adding machine shortened the working day in grammar school.

Elihu Thomson

IT is hardly news any longer when a new award is made to Elihu Thomson, from 1920-1922 Acting President of the Institute, and since 1902 Non-Resident Professor of Applied Electricity. The presentation to him in England of the Faraday Medal this past

summer, according to extensive computations, brings his total number of medals and prizes up to eleven or more. Six of these were awarded by foreign organizations. He also has been elected to more than a dozen professional or scientific societies.

These awards and honors, in a crude sort of way, are manifestations of the world's high regard for genius. For certainly Dr. Thomson is a genius: no American except Edison has been a more fecund inventor or has done more to further electrical progress. Over five hundred patents are registered in his name; the watt-hourmeter and electric welding are included among them. To cover adequately his scientific work is far beyond the scope of a journalistic item such as this, but the amazing record exists for those who wish to search it out.

But his scientific record does not constitute the entire record of this many-faceted man. Between inventions he has served as educator: since 1898 he has been a member of the Institute's Corporation, from 1920-1922 he was Acting President, and at the present time he is a Non-Resident Professor of Applied Electricity and a member of the Visiting Committee to the Department of Electrical Engineering. In addition to all this he has found time to act as a trustee for the Peabody Museum at Salem.

It is reputed that he is a descendant of the Thomson Clan of Dunfermline, Scotland, famous in "The Bruce," Stuart, and Douglas days. Certainly it is possible to reason that here is an example of that hardy, courageous line, who has used his energies as a scientist instead of as a fighter. He was born in Manchester,

England, March 29, 1853, and came to this country five years later, obtaining his education in grammar schools and by dint of self-study.

Something of the nature of the man is indicated by his attitude toward the Presidency of the Institute. He refused to accept permanent occupancy because he felt that a younger man was needed, and because as head of the Thomson Laboratory of the General Electric Company, he was working on a number of electrical projects that demanded a large share of his time. Consequently, to fill the interlude between the death of President Richard C. Maclaurin and the selection of his successor, Dr. Thomson agreed to act only as titular and temporary head for the signing of diplomas and important documents.

A contemporary electrical journal refers to him as our "Swampscott professor, inventor, philosopher, and friend." Surely here is a man for some biographer to get down on paper. We know too little of our scientists in comparison to what we know of men in other fields. Perhaps this fact is a tribute to the reticence of the true scientist, but it is not to the historians.



ELIHU THOMSON

Sometime Acting-President of the Institute and the most distinguished of American engineers and scientists, who recently had added to his list the Faraday Medal. See page 7

Spider Ranches

AS Brigadier General Logan Feland, '92, last August relinquished command of the United States Marines in Nicaragua, declaring, "The time is past when it is necessary to use armed force to maintain peace in Nicaragua," international complications loomed on the Pacific horizon of the insect world as a result of the announcement of George L. Clark, from 1924 until September 1, Assistant Professor of Chemical Engineering. He declared that spiders and silkworms weave *exactly*, if not identically, the same kind of fiber.

This momentous news, which is said to have been the result of x-ray investigations, puts a new and perhaps ominous interpretation on that song of childhood: "Here we go Round the Mulberry Bush!" What effect the news will have in the silkworm world is not yet known, but it is considered likely that this most recent use for the all-seeing eye of Professor Clark's x-ray tube may start a war of competition. It is possible that even now the silkworms, who, it is said, thrive on mulberry leaves, are wriggling around that well-advertised bush faster than ever.

Whatever the outcome of this important discovery, much interest attaches to the possibility of putting spiders to work in some useful occupation. One may now picture spider ranches with millions of insects toiling to make America the silk center of the world. Is it also too much to imagine that in time every household will have its private spider coop where these busy little fellows will spin the fiber that is used so much in many attractive garments of this day of many wonders?

Agrarian Lamentations

SINCE the political defeat of Andy Jackson's motley mob in 1840 the irresistible course of that Frankenstein, the Machine Age, has inexorably shoved the farmer back into a rear seat in the national political orchestra, there to express an inferiority complex by scratching on a very second fiddle. This has not prevented him, however, from now and then rising above the din with the squeaking, wailing note, that can set the national nerves on edge.

This past July at the Williamstown Institute of Politics, Henry C. Wallace, from out in Iowa, the son of a former Secretary of Agriculture, wailed a bit over the grave injustice which has been done the farmer during the past six years, and warned of an impending food shortage brought about by the decreasing agricultural population. Agricultural labor shortage, consequent food shortage, consequent higher prices, industrial labor discontent — so ran his line of reasoning.

Naturally he did not go unchallenged and he had flung back at him the charge that his initial premise was wrong, that there were too many, not too few, farmers. Professor Donald S. Tucker, of the Institute's Department of Economics and Statistics, was the disputant and he contradicted Mr. Wallace's statement that the present ratio of one-fourth

of the total population now living on farms should be maintained. Difficulties of over-production and consequent lower prices for farm products now facing the farmer have developed because farm production per man has increased at least twice as rapidly as the production per man in all industry, Dr. Tucker maintained. He pointed out that too many young men are staying on the farms now in contrast to the exodus from the farms of the young men with sufficient initiative of a generation ago. Instead of the "back-to-the-farm" movement favored by Mr. Wallace, Dr. Tucker believes that there should be a revival of the "in-to-the-city" movement.

A somewhat novel doctrine, this. Be it true or not, it is hardly imaginable that its apostle would be received with open arms and smiling faces in the political gatherings of the great West; instead he would probably be impaled on a pitchfork. But such is the price of hard thinking.

Champion World Champion

BY way of celebrating the first non-stop flight to Hawaii from the mainland made last June by Lt. Albert F. Hegenberger, '17, of the Army Air Corps (see page 19), Lt. Byron J. Connell, S. M. '25, navigator of the ill-fated *PN-9, No. 1*, which was forced down two years ago in a similar venture, took the air on July 9 at San Diego in a *PN-10* seaplane, carrying a load of almost 4,500 pounds. He remained aloft eleven hours, seven minutes and eighteen seconds, covering 947.58 miles, and thus twelve new world seaplane records, half of which were wrested from Italy, were credited to the United States Navy.

Six of the records were for speed: three being for 1,000 kilometers and three for 1,500 kilometers with loads of 500, 1,000 and 2,000 kilograms at each distance. The remaining six were for duration and distance at corresponding loadings. These latter, the Italian records, were held by Alessandro Passalvia, who had covered 357.38 miles less than did Lt. Connell and remained aloft five hours, twenty-six minutes and eleven seconds shorter time.

For good measure, on August 15-16, Lt. Connell, together with Lt. Herbert C. Rodd and Aviation Machinist Mate Comar Vincent, drove eleven tons of seaplane 101 times around a twenty-five kilometer course at San Diego in twenty hours, forty-five minutes,



Saunderson

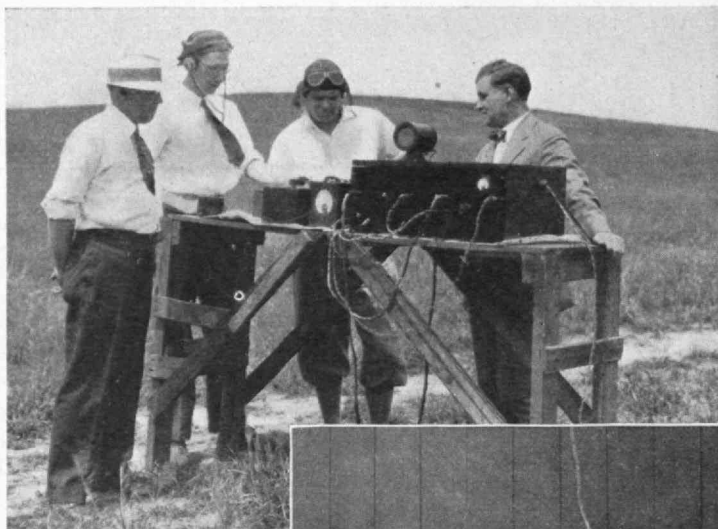
FORMER-DEAN ALFRED E. BURTON

A portrait in oil by Mary B. Hazeltine, which now hangs in the Main Hall of Walker Memorial. Dr. Burton, it has just been announced, on December 1, will become director of the American Merchant Marine Library Association

and forty seconds. At the take-off they carried 1,102.31 pounds of sand (the "pay" load), 1,222 gallons of gasoline and 120 gallons of lubricating oil. Not a gallon of fuel was left in the tanks when the plane came down at the conclusion of the flight by which two more world records for distance and duration in class C-2 seaplanes carrying 500 kilograms dead weight and returning to point of departure without refueling were broken, and one world speed record, for 2,000 kilometers carrying 500 kilograms dead weight, were established.

More Airports

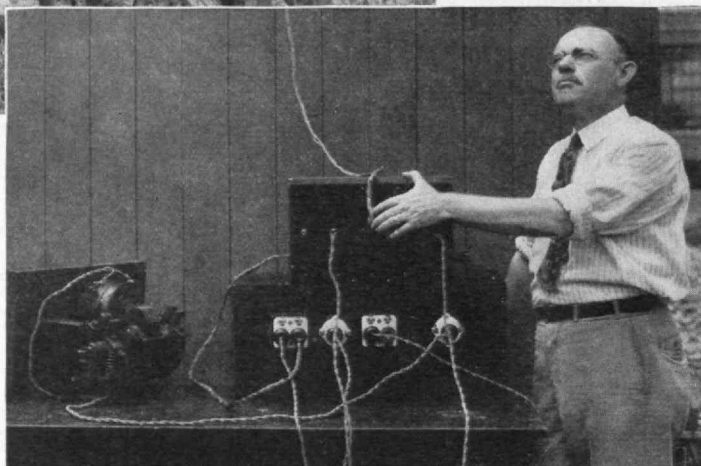
IF there is to be an aeronautical industry or an aeronautical interest there must be flying, Professor Edward P. Warner, '17, Assistant Secretary of the Navy for Aeronautics, and Head of the Course in Aeronautical Engineering at the Institute, declared in an address before the Aviation Conference of the New England Council, in Boston, September 30.



Westinghouse Photos

LOUD HEARER

Airmen and inventor gather around for pointers on the automatic airport attendant, the invention of Thomas Spooner, '09, shown in close-up in the photo at the right. The apparatus is unaffected by intermittent sounds, but the noise from the motor of an approaching plane sets it into action



He was speaking on "New England's Future and the Future of Aviation," a broad discussion of what has been and what can be accomplished in New England to encourage aeronautical industries, commercial aviation, and flying as a sport.

Weighing the natural handicaps of hills with the advantages of a coast which offers ideal harbors for marine flying craft, Secretary Warner found much to encourage those who would bring to New England an increasing share in the development of aviation. Well-marked airports, he said, are fundamentally essential for the progress of aviation in the northeastern states. There should be no spot in New England, except in the northern wooded sections, more than twelve miles from a landing field. This would require but thirty properly placed fields in Massachusetts, for instance, and two-thirds that number in Connecticut. He urged that civic organizations and individuals interest themselves in such projects as a pledge of friendship to the air navigator.

The tendency in the aeronautical industry, he pointed out, is to establish plants where airplanes are usable and used, for experience with the operation of aircraft brings understanding of the problems of design and manufacture. The airport and the airway are the keys to an aircraft industry, as well as the air mail and passenger lines. They have a special interest for the national defense, because mobility is among the supreme virtues of aircraft in that service. To provide surveyed and marked airways where aircraft could be moved day or night, in good weather or in bad, would be to increase their effectiveness for the protection of the country.

The popularity of New England as a great playground with innumerable mountain and coast resorts, he said, offers unusual opportunities for development of passenger airways, which, with adequate land field and the excellent harbors, — "a positive invitation to seaplanes," — should do much to stimulate tourist travel by air.

Long recognized as an authority in aeronautical engineering, Secretary Warner recently added to his accomplishments by qualifying as a pilot. He was a member of the honorary committee of the recent New England Aviation Exposition which included among its members Lieutenant Albert F.

Hegenberger, '17; Porter H. Adams, '14, recently reelected to the Presidency of the National Aeronautic Association; Professor William G. Brown, '16; and Lieutenant Walter F. Eade, U. S. N. R., Research Associate in the Institute's Course in Aeronautical Engineering.

Hearing Wings

PLANES that pass in the night are no longer to be at the mercy of dozing airport

attendants when the loud-hearer of Thomas Spooner, '09, comes into general use. Essentially a mechanical ear which may be set to listen, it was successfully demonstrated at Bettis Field, McKeesport, Penna., last September when the noise of a plane, a thousand feet in the air, closed a switch on the landing field and shortly thereafter the pilot glided safely along a path of illumination that had been called into being by the thrum of his own motor.

A loudspeaker constitutes the "ear" of the mechanism. It works in reverse order, inhaling rather than exhaling sound, and is laid on its back to face skyward, thus giving the apparatus a directive effect with reference to noises from above. A microphone completes the auditory section. After passing through the initial amplifier the impulse is received by a resonant circuit set, tuned to the dominant frequency of the airplane drone. Here a second amplifier does its work and then the thread is picked up by a device which has an amplifying power of 100,000,000.

The impulse is now ready for the time-limit relay, a vital unit, and the last step in the process before the power switch is closed. Without this feature the outfit might be set off by isolated or intermittent sounds such as gun shots or thunder, whereas with the time-limit feature, Mr. Spooner's sound-selective switch is like a sleepless self-possessed watchman who thinks and knows what he is about to do before he acts.

Naturally the question arises as to how the Spooner device will cope with riveting machines and unmuffled motor-trucks, not to mention innumerable other sounds that are certain to impinge upon the "ear."

American Chemical Society

JAMES HARVEY ROBINSON, once wrote a book, "The Humanization of Knowledge," which surely the leading spirits in the American Chemical Society have read or heard of, to judge from the discussion topics on the agenda of their meeting programs. No American society is so industriously concerned in the humanization of knowledge as is this one; it must be confessed that at times they seemingly overshoot the mark and furnish material for such critics as Arthur Lynch ("Science Leading and Misleading") and C. E. Ayres ("Science: The False Messiah"). (See page 61.)

At its meeting held in September at Detroit, many subjects of a non-technical nature were discussed: the present age was termed the Age of Chemistry, perhaps to compete with similar terms such as the Age of Electricity, the Machine Age, and so on; it was declared that "Science has killed the navies of the world"; an appeal was made for a return to the idealism of Ralph Waldo Emerson; the abandonment of the classic was deplored and chemistry declared too materialistic. Certainly all of this is indicative of a lively culture among chemists. This fact has frequently been observed, though no one has ever suggested why chemistry more than any other science, with the possible exception of physics, stimulates its practitioners to broad and humanistic ways of thought.

At the Detroit meeting the organization of a division of the history of chemistry was announced, for which Tenney L. Davis, '13, Associate Professor of Organic Chemistry, was appointed secretary. Researches into the history of science are to be conducted by the division "to bring about greater emphasis on the humanities in scientific education." Professor Davis, himself, possesses a unique collection of early books on science, and relating subjects.

Great is the Glory

MEDALS and honors of divers sorts and from many places which have been received by Technology men and recorded by the press both here and abroad.

ELIHU THOMSON, Life Member of the Corporation: The Faraday Medal of the British Institution of Electrical Engineers.

OSCAR G. THURLOW, '04: The Howard N. Potts Medal of the Franklin Institute for his backwater suppressor.

LT. ALBERT F. HEGENBERGER, '17: The Distinguished Flying Cross for the first non-stop flight to Hawaii.

JOHN MEAD HOWELLS, '90, and RAYMOND HOOD, '03: The Gold Medal of the Chicago Chapter of the American Institute of Architects for their design of the Chicago Tribune Tower.

C.-E. A. WINSLOW, '98: The Harmon Foundation-Survey Award for an article, "Public Health at the Crossroads."

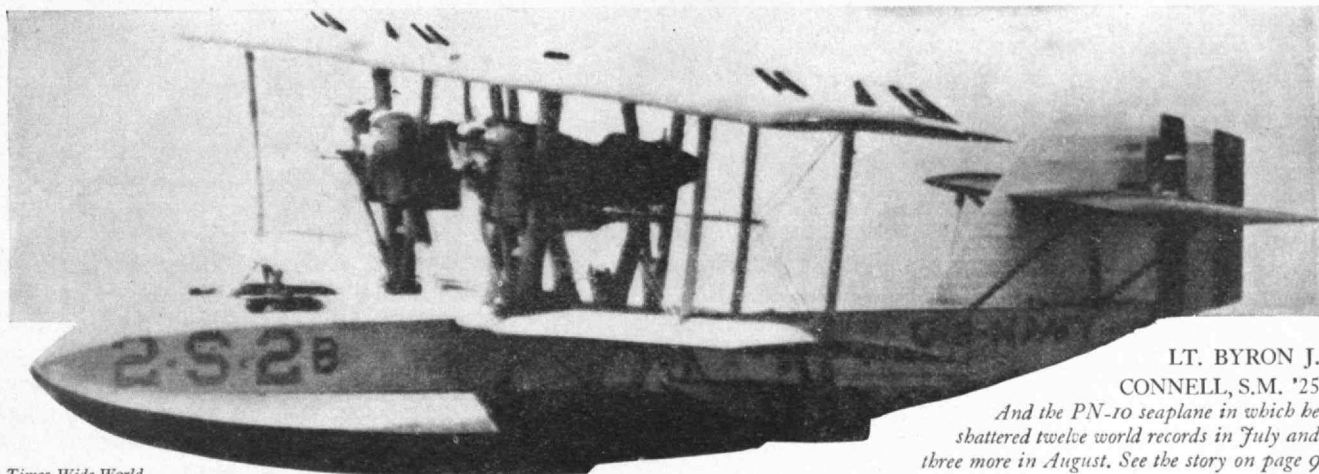
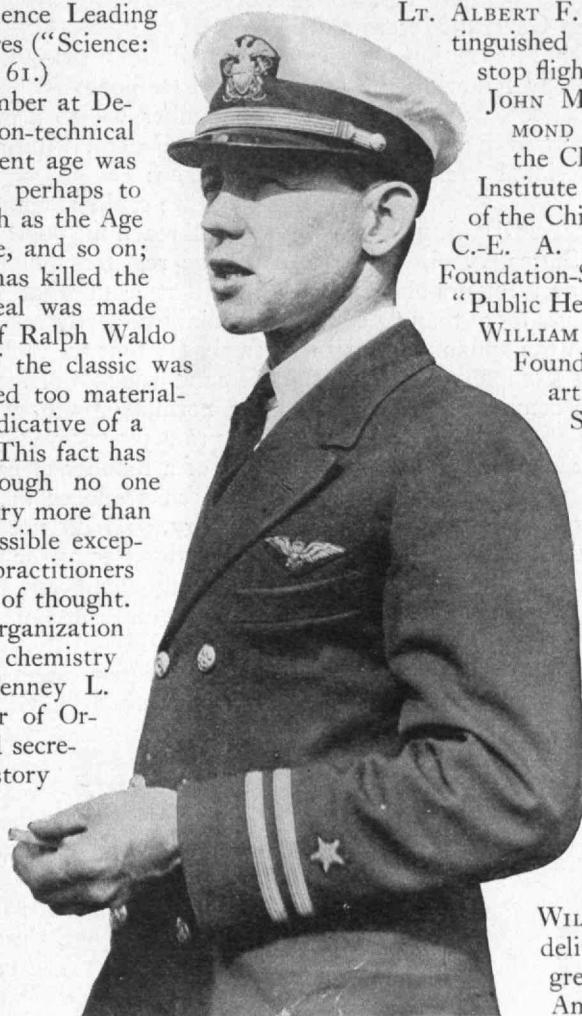
WILLIAM Z. RIPLEY, '90: The Harmon Foundation-Survey Award for his article "Main Street and Wall Street" (later expanded into his book of the same name).

EDWARD D. ADAMS, '69: Awarded Honorary Degree of Doctor of Science by the University of Louvain.

CALVIN W. RICE, '90: Awarded the Cross of Knight of the Czechoslovak Order of the White Lion.

JOHN R. FREEMAN, '76: Designated by the Federal Government as its representative to the third International Congress of Scientific Management, held in Rome, Italy.

WILFRED LEWIS, '75: Chosen to deliver a paper at the above Congress on "Master Planks in the American Industrial Program."



Times Wide World

LT. BYRON J. CONNELL, S.M. '25

And the PN-10 seaplane in which he shattered twelve world records in July and three more in August. See the story on page 9

MORTON C. TUTTLE, '96: Chosen to deliver a paper at the above Congress on "The Organization and Management of an Industrial Construction Company." THEODORE W. ROBINSON, '84 (Vice-President Illinois Steel Company); In Glasgow, Scotland before the Iron and Steel Institute he delivered a paper on the American iron and steel industry since 1900.

Motor War

INDICATIVE of the tensivity of interest in the prospective struggle between General Motors and Henry Ford was the precipitate action of the Federal Trade Commission the day following the appearance of headlines such as "\$4,000,000,000 in Close Communion in Wall Street" carried by the evening papers of July 28 over an Associated Press despatch which began:

"A gigantic 'community interest' drawing together three corporations — United States Steel, General Motors, and the E. I. du Pont de Nemours and Company — whose capitalization ranges more than \$4,000,000,000 is seen by Wall Street in the announcement to the stockholders of the du Pont Company that it has purchased 114,000 shares of the common stock of the Steel Corporation."

The despatch went on that the price paid was approximately \$14,000,000; suggested Pierre du Pont, '90, since 1920 Chairman of General Motors, as a possible future Chairman of the Steel Corporation; hinted that "when the new Ford car makes its appearance the motor war for business between General Motors and the Fords will develop vigorously."

Whereupon the Commission within twenty-four hours ordered one of the most extensive investigations

in its history. It directed its Chief Economist, Francis Walker, '92, "to cause an inquiry to be made into the relationships, direct or indirect . . . and the economic consequence of such community of interest and to report the facts to this Commission."

While information concerning the progress or results of the investigation is as yet unavailable, rumor and counter-rumor during August and early September concerning the new Ford stimulated prevalent feeling that, in 1928, the motor vehicle industry, at least in the Chevrolet-Ford price class, would attain its saturation point.

Significant, therefore, were the remarks made by Alfred P. Sloan, Jr., '95, President of General Motors, September 28, to a group of automobile editors met at the General Motors Proving Ground in Milford, Michigan:

"If we could assume, for the sake of argument, that we will reach the point where 25,000,000 cars and trucks will be registered in the United States — an assumption that from what we have accomplished so far is certainly perfectly reasonable — then I think we could safely say that the replacement demand, plus the export demand which will increase for many years yet, plus the normal growth, would amount to something like four to 4,500,000 vehicles and would require a production of a number of cars equal to or greater than has yet been produced in any year in the history of the industry, so I do not think we really have much to worry about as to the future."

Equally significant was the way Mr. Sloan declared there was no contemplated death struggle between his organization and that of the Fords as they were shooting at different targets. "If the past is any indication of the future," he said, "the new Ford car will be a

car that will appeal to a great mass of people. Naturally, that car must meet present conditions, but the basic idea is likely to be the same. General Motors is in quite a different position. General Motors' idea is to make a car of greater luxury than a Ford, a car that properly belongs to the next higher price class."

The Cover

A NOTABLE series of seven etchings and one aquatint, all the work of Technology men, have been chosen for the eight cover panels for Volume XXX of *The Review*, of which this issue carries the first, the *W. I. Trade* by George C. Wales, '89. All have been reproduced in the most faithful manner that practitioners of the graphic arts have developed in this country. Since each of the seven etchings and the aquatint constituted a separate problem and required



CHARLES L. NORTON, '93

Head of the Institute's Department of Physics, he is Chairman of the Faculty for the current scholastic year

special treatment, some idea may be had of the printing difficulties involved, particularly when practical consideration demanded that all eight covers be printed at once on the same sheet of paper.

The *W. I. Trade* of Mr. Wales', dated 1918, is one of a group of remarkable sea etchings executed by him. Few men have got into any medium such technical exactness with such economy of line and beautiful movement. To quote C. Howard Walker, Lecturer on the Philosophy of Architecture at the Institute, "... they have a unique quality as they are not only excellent etchings, with atmosphere and the lilt of the sea, but he knows his ships down to the last block and tackle." Nor does he work entirely on copper; his lithographs are attracting increasing attention.

Born in the South End of Boston, December, 1868; schooled at the Institute's Department of Architecture for three years; three years as draughtsman; a stimulating trip to Europe in 1891; from 1893 on, engaged in architectural work — such runs his career severely epitomized.

Other hands had a part in the making of the complete cover. Kenneth Reid, '18, designed and executed the lettering for this and the coming seven covers. The etching by Mr. Wales was lent by Charles E. Goodspeed and Company of 9A Ashburton Place, Boston, which firm carries a collection of his work in different mediums.

Big Stickers

INFORMATION stating trans-Atlantic yachting is to be revived next summer and that Henry Howard, '89, is a member of the committee in charge of a Spanish-American race between New York and Santander, recalls the part that Mr. Howard played as an ambassador of sport some twenty-two years ago. It was he, then chairman of the Regatta Committee of the Eastern Yacht Club of Marblehead, who, in 1902, began overtures that resulted in the international sonder or special class races.

In 1907, Mr. Howard went to Spain and, as yachtsman and friend of international sport, was granted a private audience with King Alphonso, himself an enthusiastic yachtsman. As a result of his conversation and the cordial reception of Spanish yachtsmen the series of races with Spanish boats were arranged for the autumn of that year. It was in the same year that Mr. Howard went to Germany to arrange for the second sonder class race with Germany. While there he discussed international sport with Kaiser William, whose guest he was four years later, in 1911, at the sonder race at Kiel.

The last trans-Atlantic race was sailed in 1905 from New York to Cowes for a cup offered by the German Emperor, and was won by the *Atlantic*. The forthcoming race, which is scheduled for next July, is expected to bring the finest of America's big stickers to the starting line. The *Guinevere*, designed by A. Loring Swasey, '98, and the *Vagrant*, designed and built by Nathaniel G.

Herreshoff, '70, are among the yachts already mentioned as entries for the forthcoming race in July.

Main Street's Le Bourget

"NO city can afford to neglect its air 'mosaic,' especially at the new city gateway," writes George B. Ford, '00, Vice-President of the Technical Advisory Corporation of New York in *The*

American City, "for to the traveler of the future his view of the airport as he alights will be his first impression of the city." Many people, stimulated by the impetus given the idea of air travel by the trans-oceanic flights of last summer, subscribe to his statement but are frankly puzzled as to where an airport should be located, how large it should be, and how it should be laid out.

Experience, says Mr. Ford, indicates that an airfield must be on a large open tract of ground — the more nearly level the better; unobstructed by buildings, wires, trees, rocks or marshes and not near a residential district because of the noise.

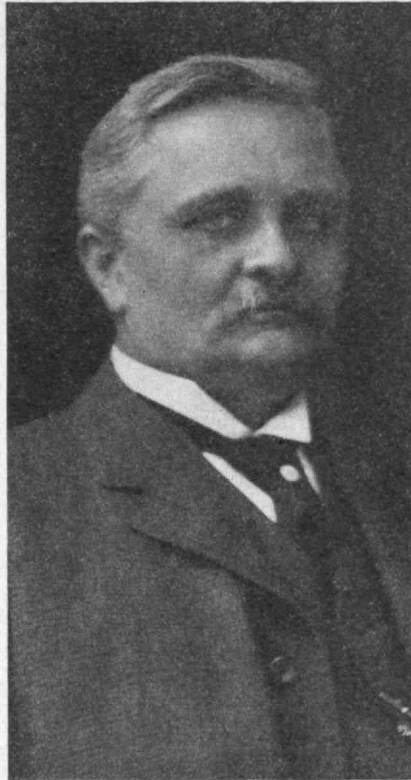
"The ideal environment is farmland, country clubs, playfields, cemeteries, or bodies of water. . . . So far as it is possible to foresee the future today, no field should be much less than 1,800 to 2,000 feet in

each direction — and preferably, 3,000 or more, especially in higher altitudes — and in any case at the end of the take-off neighboring buildings and trees should be low enough not to interfere with a rise of one foot in seven.

"The field does not have to be square; in fact, it can, if necessary, be L-shaped or T-shaped, provided there is a full-length runway in each of two directions at approximately right angles with each other. . . . In general, a quarter-section, or 160 acres, is a good minimum size for an all-around airport. If it is practicable to increase the acreage to a square mile, with 3,000 to 5,000-foot runways, it is certainly worth doing."

Abortive Anachronism

JIMMIE WALKER, debonair Mayor of New York, had returned from his vacation in Europe for only a few days, when rumblings from the subway shook the very foundations of Tammany Hall. Charles Edward Smith, '00, St. Louis consulting engineer, who had been studying the city's transit problem at the



WILFRED LEWIS, '75

He delivered a paper before the International Congress of Scientific Management, in Rome, Italy. See page 11

behest of Comptroller Charles W. Berry, made his report, which, according to the *Herald Tribune*, Tammany did not want made public until after election. That paper, in apparent defiance of Tammany's plea, "obtained" and published Mr. Smith's political dynamite in a form that differed "slightly in verbiage from the final printed report . . . but with all facts and figures in it . . . the same."

Mr. Smith, in the public version of this report, brands the multiplicity of corporate entities now operating the New York transit system "an abortive anachronism"; talks about the present "dog in the manger policy"; and says that the "fixed five-cent fare lunacy," "the curse of New York City transit," is responsible for the lack of equipment in the public schools; for the city's failure to do more than touch its motor traffic problems; for the garbage that "fouls the fine beaches of New Jersey and Long Island for lack of modern means of destruction"; for the sewage polluting "the waters that should be free and safe for bathing." Small wonder is it, therefore, that this outspoken engineering report should constitute a journalistic "scoop," since the Walker administration and the Hylan régime before it, both rode into power with "a five-cent fare" as their battle cry.

The entire question of New York transit, at least for the casual observer in the hinterland, is almost hopelessly involved in the mazes of political cross wires. Consequences apparently extend all the way to Albany — and perhaps, if Governor Smith moves to the White House, to Washington — because the chairman of the local Transit Commission, who, by virtue of previous entanglements will probably oppose Engineer Smith, "is perhaps the closest personal friend of the Governor." Comptroller Berry (reported favorable to the essential points in the new proposal), continues the *Times*, is also numbered among the chums of Governor Smith.

Mr. C. E. Smith has obviously thrown aside all hope of pleasing any single faction, and has prepared his report from the standpoint of cold economics and sound engineering, not however, neglecting to make things interesting for the masses. It was no dull sense of humor that prompted him to enliven weighty discourses upon

Twenty-Five Years Ago in The Review

Issue: October 1902

ARTICLES: "William H. Niles" by George H. Barton, '80; "The Service of Science to the University, and the Response of the University to that Service" by President Henry S. Pritchett; "The Ascent of Fuji by the Institute Party, August 2, 1901" by Ralph R. Lawrence, '95; "On Criticism of Themes by Students" by Robert G. Valentine; "The United States Geological Survey" by Frederick H. Newell, '85; the "Augustus Lowell Laboratory of Electrical Engineering" by Theodore H. Skinner, '92.

CORPORATION NOTES: At the 294th meeting on October 8 the following were among the appointments confirmed: William H. Walker, Associate Professor of Industrial Chemistry; Samuel C. Lind, '02, Assistant in Gas Analysis; Robert S. Williams, '02, Assistant in Analytical Chemistry; Jeremiah F. O'Neill, Assistant in Woodwork and Foundrywork.

FACULTY NOTES: The beginning of the new year notes the changes of administration and registration in effective operation. The administrative reorganization has borne the test of the opening of the year successfully. The offices for the Secretary and Dean have been fitted up on the west side of the Rogers Building, adjoining the President's office, and effectually detached from the bustle of the general office. . . . The Institute will be represented by President Pritchett at the inauguration of President [Woodrow] Wilson of Princeton University. . . .

"In spite of sundry 'conservative' estimates, the number of students at the Institute this year, . . . notwithstanding the strict treatment of examination records, . . . on the opening day was 1,382, a gain of ninety-five over the largest previous record, that of last year. The number of students entering from other colleges is notably large, and represents a wide range of location. . . ."

GENERAL NOTES: "Albert M. Knight, after thirteen years of service as Bursar of the Institute, resigned in consequence of ill-health and was succeeded by Frank H. Rand.

"The National Association of Stationary Engineers held the largest convention of its history during the first week of September, in Boston. Most of the meetings were held in the Institute buildings; and the chairman of the Local Committee of Arrangements was Mr. P. H. Hogan, who has been for so many years the chief engineer of the Institute of Technology."

public utility finance and dull statistics with sharp words. The *World*, as if to embarrass the sponsors of the report, editorially called upon Comptroller Berry "or anyone else interested in the C. E. Smith plan" to answer ten questions that it propounded. Back came the



T. C. A. MEETING HOUSE

In this, the Hotel Traymore, Atlantic City, there will be a gathering of the Technology Clubs Associated next May 25 and 26. Lester D. Gardner, '98, is in charge of arrangements

Ten Years Ago in The Review

Issue: November, 1917

REGISTRATION: "Already we can begin to see from the registration at the Institute some of the effects of the war on technical education. . . . The showing is that chemical engineering is stimulated and naval engineering exhibits an equal or greater increase in students, while civil engineering and electrical engineering remain in about the normal condition. The total is 1670.

"The Institute's freshman class is larger than ever, 504 as against 450 of last year. . . . It is in the post-graduate work that the largest percentage of loss comes . . . [and] here the number has fallen from sixty-five last year to thirty-nine at the moment. . . .

"A representative of a neighboring institution is said to have declared that any place of higher education opening with more than fifty per cent of its former enrollment is unpatriotic. Perhaps—or perhaps the grapes are green."

SIXTIETH COUNCIL MEETING: President Francis R. Hart, '89, presided at the first meeting of the Alumni Council ever held in Walker Memorial. The resignation of Isaac W. Litchfield, '85, as Editor of The Review was announced and accepted with regret. By unanimous vote he was made an honorary member of the Council, an "unprecedented honor designed to show further the Council's feeling about Mr. Litchfield's work."

Frederic H. Fay, '93, made a report of progress for the M. I. T. Committee for National Service; President Richard C. Maclaurin spoke of the war activities of the Institute and the members of the Faculty; Professor Henry G. Pearson who had recently visited fourteen local alumni clubs, advocated the early appointment of an alumni field secretary; Bursar Horace S. Ford told about the "completion of the Walker Memorial and its present use by the naval aviators."

TECHNOLOGY COLORS: In addition to complete reports of the work of the War Service Auxiliary of Technology women, of the American University Union in Paris, and of the assignments of nearly 750 alumni and undergraduates enrolled in service, seven pages of the issue were devoted to an exhaustive answer to the perennial "Which Class Selected the Technology Colors?" The author, Charles S. Gooding, Secretary of the Class of 1879, devoted about two of these to an argument asserting the claims of his class and in the other five exhibited documentary evidence to support his contention.

reply from Mr. Smith himself, writing, as he said, "as one interested in the C. E. Smith plan."

Architects Active

CASS GILBERT, '80, architect of the Woolworth Building and of the Fort Lee Bridge, was named chairman of the American section of the permanent committee formed by the International Congress of Architects at its eleventh session held at The Hague, Amsterdam, August 29 to September 4. To this congress there were six American delegates, and one of these was Professor William Emerson, Head of the Institute's Department of Architecture, and first Vice-President of the Institute of Architects.

A committee of the latter named organization, upon which Charles N. Cogswell, '92, sat as a representative of the Boston Chapter, on September 9 made public a new code of professional practice to safeguard the financial, technical, and æsthetic interests of the 3000 members of the Institute.

The basic principles embodied in the new code, certainly of exemplary importance to

other professions, were stated as follows: "The profession of architecture calls for men of the highest integrity, business capacity, and artistic ability. The architect is intrusted with financial undertakings in which his honesty of purpose must be above suspicion; he acts as a professional advisor to his client and his advice must be absolutely disinterested; he is charged with the exercise of judicial functions as between client and contractors and must act with entire impartiality; he has moral responsibilities to his professional associates and subordinates; finally, he is engaged in a profession which carries with it grave responsibility to the public. These duties and responsibilities cannot be properly discharged unless his motives, conduct, and ability are such as to command respect and confidence."

Except Religion

SETTING: opening session of the fourteenth National Business Conference gathered at Wellesley Hills, September 18. The play: a one-act morality opus with a single performer. The performer: Roger W. Babson, '98. The monologue leading to the climax: "We are in a period of declining interest rates which heretofore has never been followed by a panic, and at the same time are in a period of declining commodity prices which heretofore has never been followed by good times."

The climax: "Hence we are in a period when wise manufacturers, merchants and investors will get out of debt and store up financial, physical, and spiritual resources. If enough men will do this, normal conditions could continue, and such readjustment as is necessary could be so spread out over a long period as to do no one any harm. It is for this that I am working. On the other hand, economic laws are as heartless as physical laws. . . . All past, present, and future legislation cannot change either the multiplication tables or the Ten Commandments. To have the world recognize this . . . is the great need of 1928."

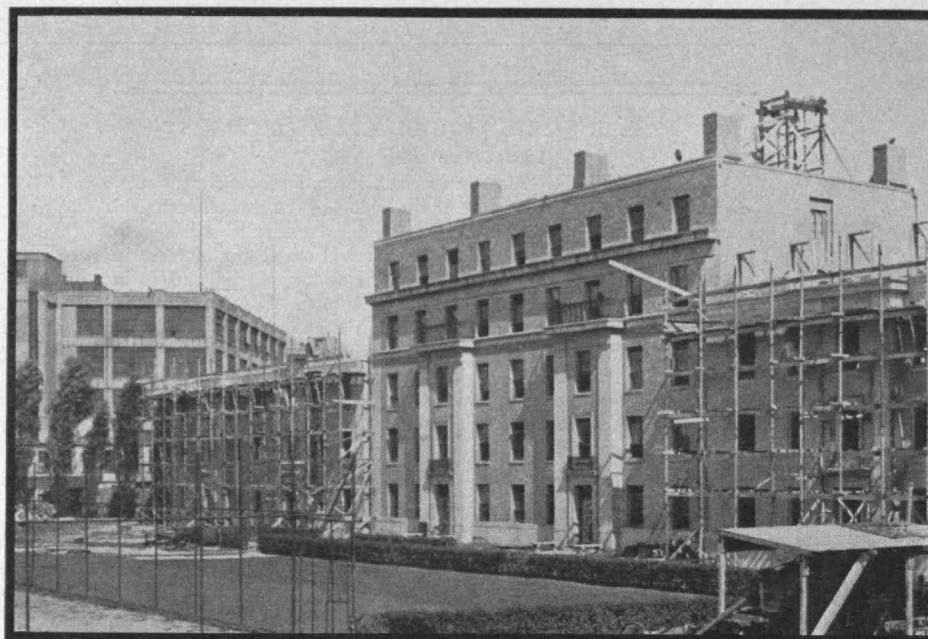


Times Wide World

TRANSPLANTED

Edward D. Adams, '69, delegate of the Engineering Foundation of America, plants a California redwood at the Five-Hundredth Anniversary of the University of Louvain

One side of
the Dormitory Quadrangle
and (Below) the Aëronautical
Building



STACCATO rattling of riveters' guns, the puffing of hoisting engines and the dull rumble of concrete mixers; smoke and steam, sand and steel. These and the omnipresent figure of Major Albert S. Smith, Superintendent of Buildings and Power, bear witness that Technology is building. Brick on brick, slab on slab, with columns lifting, four new buildings are rising to take their places on the Institute's skyline.

Much has been accomplished during the summer. The two new dormitory units, each with a capacity of eighty students, are rising beside the Class of 1893 Dormitory to which they are joined. The walls, cream brick with limestone trimmings, are now full height and the buildings will be ready for occupancy early in the new year. Prophets vision these as part of a quadrangle in which the Alumni of the future may have a share in building on

Shifting

*New Dormitories to House 160 More
Infirmary Comprise the Institute's Building*

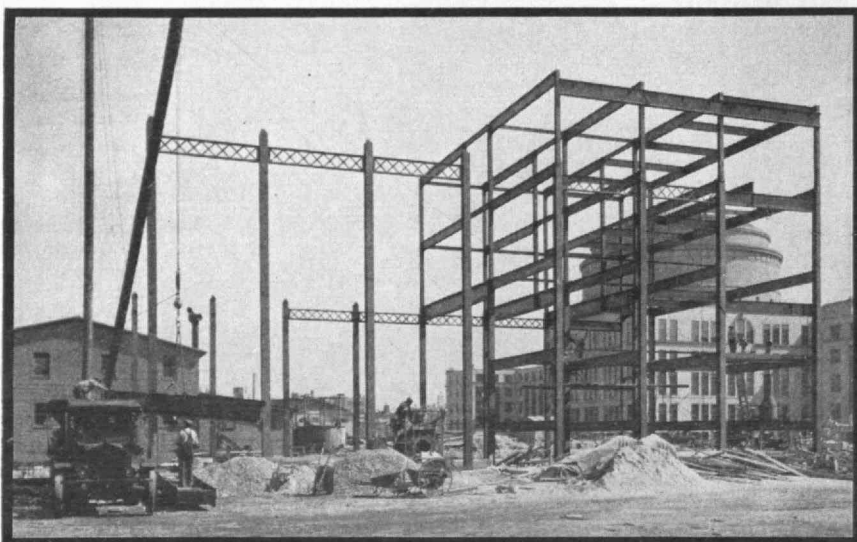
the Institute's undeveloped eastern frontier.

It will be recalled (see The Review of February) that of the funds donated by Alumni for dormitory construction, Charles Hayden, '90, made the first gift in the sum of \$100,000. A like amount came from the Class of 1901. Thus was the first completion of one side of the quadrangle assured.

To the westward, bordering the Massachusetts Avenue side near the Vassar Street corner, stands the steel skeleton of the Daniel Guggenheim Aëronautical Laboratory, designed by Harry J. Carlson, '92, and provided for in part by a fund of \$230,000 from the

Daniel Guggenheim Foundation for the Promotion of Aëronautics. This new building, which is also scheduled for completion in the spring, has been designed to conform to the architecture of the present educational groups. It will be 150 feet long, sixty feet deep and three stories in height, in addition to a high basement.

In the basement and rising through the first floor will be placed the two existing wind tunnels, which will be moved from the temporary wooden building in which they are now housed. There will be a working





Construction is progressing on the Richard Homberg Memorial Infirmary

Skyline

*Students, an Aëronautical Building and an
Program Scheduled for Completion in the Spring*

museum, library, drafting room, offices and locker rooms on the first floor, access to which will be gained from entrances at the ends of the building. On the second floor will be a large rigging laboratory, another drafting room, research rooms and several further offices.

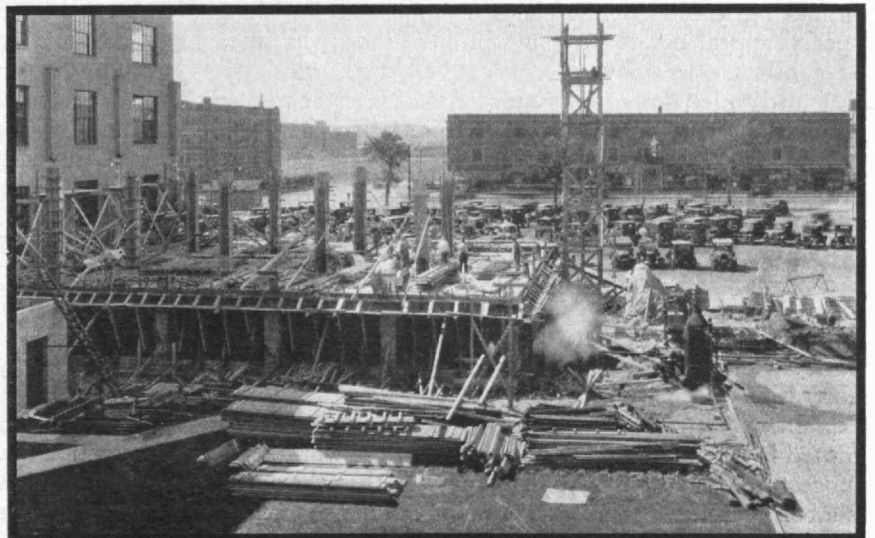
Four laboratories will be on the third floor. One room will be given over to the testing of materials used in the construction of aircraft and another will be devoted to studies of flight test instruments. There will be two class rooms on this floor, and a large drafting room for graduate students. Skylights will give excellent natural light for drafting and research work on this floor.

Close by and directly connected with the main educational group at its northwest corner is the Richard Homberg Memorial Infirmary, which also is due to be completed in the spring. This new structure, rising four floors, will provide ample space for the physical examination of students and facilities for observation of cases requiring special care.

While the infirmary is not a hospital in the most literal sense of the word, and no operative treatment other than first aid will be given, there will be

rooms for convalescents, with space for approximately fifteen beds. In addition to offices for the physicians and nurses, there will be clinics for ear, eye, nose and throat treatment and a solarium on the fourth floor. The building is a memorial to Richard Meyer Homberg, '23, who died in his senior year, and \$100,000 of the sum required for construction was a gift from his family.

In designing the new buildings consideration has been given to future expansion. The Aëronautical Building is in line with Building 5 and will eventually be connected with the main group. There is an advantage not to be overlooked in these new buildings. The Aëronautical Building will help to shield Technology's back yard from sensitive sight-seers passing along Massachusetts Avenue while the new dormitories will protect sensitive Institute folk from unsavory factories on Ames Street.



Editorial Comment

Re "Books" — Belatedly

VOLUMES of interest to Technology men! The Review, yearly desirous of pushing out its borders, of widening its scope, of assuming the position of spokesman and speculum for the whole of the Institute world, calls attention with a slight touch of swagger to that sub-title of its "Books" department. "Of interest to Technology men" is a presuming phrase of pregnant implications. To particularize, it implies (a) that Institute men are interested in books, (b) that some Institute men have time to read some of the books that they are interested in, and (c) that it is possible to establish a literary lookout or conning tower the earlier to glimpse the approach and to determine the character of such books as they appear on the publishing horizon.

Since it is difficult to think of any activity above the level of hog-callers, executive secretaries, and politicians which does not require the occasional reading of an occasional book, it is hardly necessary to discuss the first two implications; it is not a tactful thing even to speak of them because of the immediate suggestion of a damning, though illogical negation. But perhaps there is some need to give logical support to the assumption that a magazine such as this can develop and operate a mechanism for the advance selection and criticism of books — of books germane to a group with the hall mark of a common institution.

By a thorough and alert reading of all advance announcements sent by the publishers, the staff of The Review spots likely books and obtains review copies. In addition, the publicity departments of the publishing houses, cognizant of the field covered by The Review, select items from their lists and send them on. Thirdly, by soliciting suggestions and advice from a cross section of the Alumni and the Faculty we are able to determine and bring to a focus the many and varied interests of Institute men. Once the books are selected, there is the critical perception of an able Faculty to draw upon in determining their worth, not to mention the numerous and competent reviewers that are available outside of that classification.

Such is the mechanism which we expect to operate in producing a collection of book commentaries with a special appeal not to be found in any other magazine. It consists essentially of a selective screen specially designed to let through only material of interest to our readers and a critical microscope to examine that material. For an example of the result of all this we point to the review on page 61 written by Professor L. Magruder Passano.

"The Cambridge College of Technology"

Freudianism, having thus far been called upon by both savants and word-charlatans to account for every aberration of man and beast, can be readily made to explain why the Institute's name is consistently corrupted by the public press in all parts of the world. We suggest, in the jargon of psycho-analysis, that the press is laboring under a complex, springing out of the unconscious to revolt against a typographical abnormality.

This abnormality exists in the *Massachusetts Institute of Technology* in a typographical as well as in the oft-mentioned lyrical and oratorical senses. The name carries several more characters than can be forced into a column width of a newspaper. It occupies an amount of space that would cost eighty or ninety cents at current Boston advertising rates. One undergraduate correspondent for a metropolitan newspaper whose reward was directly proportional to the amount of space he could fill, even estimated that he earned something over six cents every time he could slip the *Massachusetts Institute of Technology* past his city editor.

That expansive name before a blue-penciling copy reader or a laconic telegrapher must engender its reaction. It does, and as a result there appears, among other excruciating examples: *Boston Technical School*, *School of Technology*, *Boston School of Technology*, *Boston Tech*, and, worst of all, — much the worst, — is *Cambridge College of Technology*. *Technology* is also in general use, in spite of the other colleges that admired the majestic cumbersomeness of the *Massachusetts Institute of Technology*.

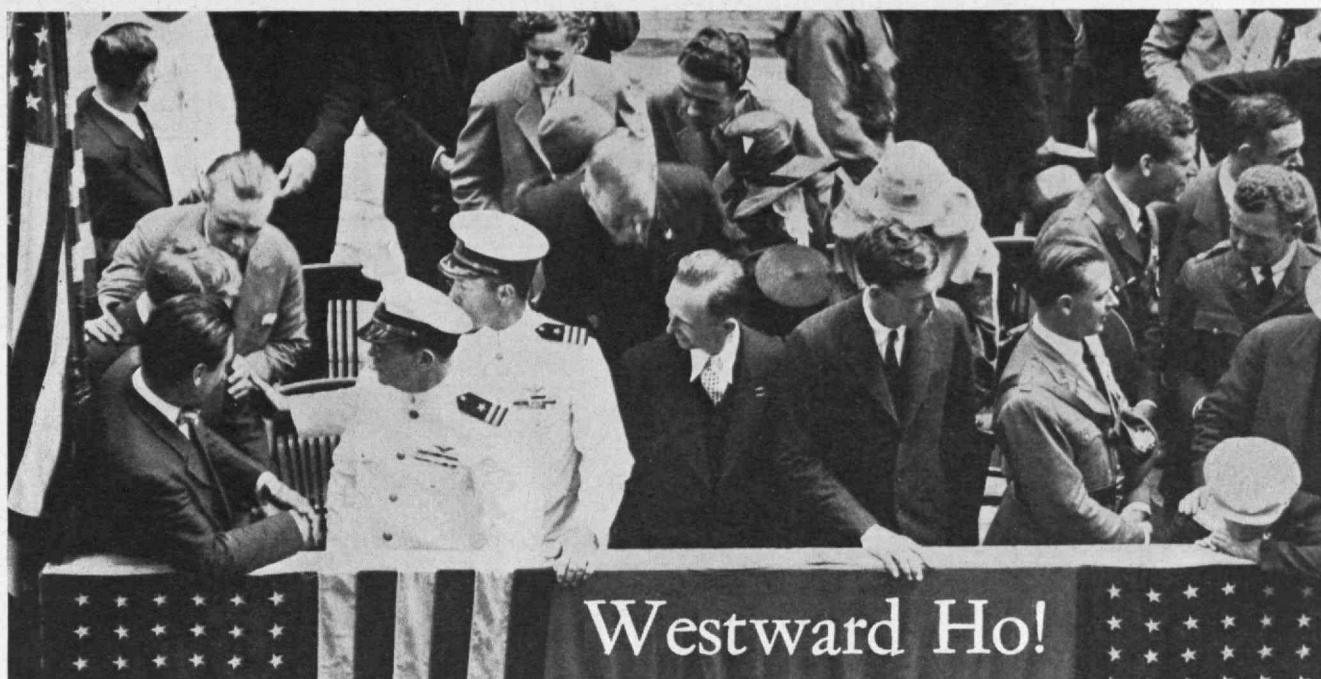
The Technology Clubs Associated

It is inherently difficult for a convention to rise above the high-water mark reached by a convocation of firemen or of Democrats bent upon nominating a president. But at times these peculiarly American affairs do overcome their innate handicaps by turning out to be socially entertaining and even productive of results. No one who attended the Convention of the Technology Clubs Associated in New York last June could have been unimpressed by its success and by the unmistakable manner in which it revealed the T. C. A. as an organization possessed of real and positive value.

So we would set it down as a tribute to this organization that they engineered a genuinely good convention, with full awareness of the paradox existent in that statement. We interpret the paradox as an indication that the T. C. A. is attaining an age of importance and usefulness. How important and how useful? The question is not rhetorical, but it can only be answered by the T. C. A.

Certainly it may be justified in taking on the purple toga of importance if it sees to consummation the Desmond Technology Center Plan. It has given static concurrence; will it give dynamic support? The able report of its Committee on Regional Scholarships gave evidence that impetus was being given to the valuable plan of creating and administering regional scholarships. Will it go further and give the plan scope and permanence? There was a pertinent discussion of what the local clubs should do in getting more and better students for the Institute. Will that discussion disseminate beyond the walls of the Waldorf-Astoria?

Certainly these things give promise of future accomplishment, and there were many other things at the Convention that revealed potentialities yet unharnessed. In the future we should like to speak of some of these possibilities; just now we are watching with considerable interest what will come of what has been started.



Courtesy Boston Evening Transcript

Wherein is set forth the story of the first non-stop flight to the Hawaiian Islands and a description of the instruments which made it successful

AT seven o'clock on the morning of last June 28 the Chief of the Army Air Corps met

By ALBERT F. HEGENBERGER,¹⁷
Lieutenant, Air Corps, U. S. A.

Lieutenant Lester J. Maitland and myself at Oakland Airport alongside the tri-motored Fokker we had been grooming since March for the flight to the Hawaiian Islands. The previous afternoon he had inspected and approved our arrangements. Now he simply said, "Go ahead." So we shook hands and took off westward over the Golden Gate towards a target so small that if we slipped $3\frac{1}{2}^\circ$ in our calculations we were certain to miss it and wind up in the sea.

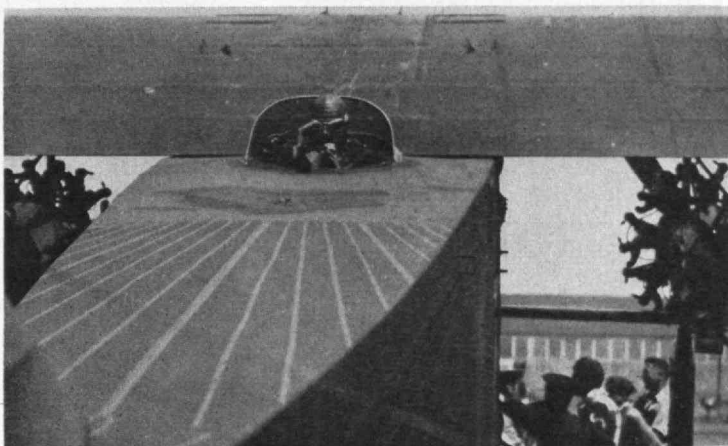
We used dead reckoning for the start, corrected for the drift and held that course. When three and a half hours out I took the first astronomical observation. The sun, appearing at right angles to our course, gave position lines paralleling it which showed that we were four or five miles off. It was within the experimental error of the instruments, but, nevertheless, we corrected for it. Shortly after two o'clock in the afternoon, Lieutenant Maitland passed me a note asking if we were due to sight any steamers soon. After taking some observations on the sun and again checking my calculations, I wrote him that we ought to see the *Sonoma* in about

fifteen minutes. We both kept watch for her and shortly she showed up dead under the center engine, on the great circle track 750 miles out of San Francisco. Thus we were doubly assured about the navigation.

The radio beacon was working all right as far as we knew, but because of the defective installation on our plane, we did not get much use of it. A new type of radio receiver had been installed at San Francisco while newspaper reporters and photographers crawled all over the ship and somewhere in changing the installation around, there must have been a poor connection made, for the signal stopped dead after we were about an hour and a half out. We only heard it again for a few moments at midnight.

All day long we flew at 300 feet, right under the clouds, but toward evening they got thicker and dropped lower. To overcome the possibility of flying into the water — there was no moon — and also to get astronomical observations, we rose to 10,000 feet, where we intended to stay for the remainder of the trip.

At about 12:30, however, the center engine began to cough, spit, and vibrate as it gradually slowed down to idling speed. With the load we then had, two engines could not



AVIGATION

Lieutenant Hegenberger taking a make-believe drift measurement from his observation station. Using the white radial lines as a protractor, he would, in actual flight, sight smoke bombs and white-capped waves for computing how far the wind was pushing the huge Fokker from her course

P. & A.

hold us at 10,000 feet. Everything became total blackness as we settled down and the stars disappeared from view. Taking out our flashlights to look at our instruments on the outboard engines, we found them covered with frost and then it dawned upon us that it was frost, forming on the carburetor's air intake that had taken our engine out of service. The manufacturers had warned us to put a heater on the air intake, as the trans-Atlantic fliers had done, but we certainly never expected to encounter frost in the tropics, and, because we got a little more power for the take-off without the heater, we left it behind. We shall know better next time.

At 4,000 feet, the frost disappeared, the balky motor came up to speed, and we rose out of the clouds again at 7,000 feet. For the rest of the trip we were in and out of the clouds. An hour and a half before sunrise, we picked out the lighthouse on the island of Kauai. On account of dense, low-hanging clouds, rain, high mountains and darkness—always a bad combination for an airplane—we hesitated to fly across the channel to Oahu at low altitude in the darkness, so we circled about until sunrise, when we crossed and landed at Wheeler Field. We had been flying for twenty-five hours and forty minutes, and I think that we could have kept going 1000 miles farther after we first caught sight of the islands, for we started with 1,120 gallons of gasoline and when we landed our tanks held 200.

Contrary to popular opinion, the significance of the Hawaiian flight was not the personal hazard involved but the triumph of careful preparation of the plane and equipment and aviation instruments. I, myself, became interested in aviation and aviation instruments somewhat against my wishes. Toward the end of the war, I was sent to finish my course in aeronautical engineering at Technology and then ordered to McCook

Field at Dayton. I was pretty much disappointed when they told me I was to take charge of a "navigation instrument" branch existing only on paper in the tables of organization. But after studying the situation for a time, I became deeply interested, for I saw that there were many fascinating problems to be solved.

We were confronted with the task of securing, for airplane service, those instruments which centuries of marine navigation had shown were essential for holding a course without the help of landmarks: compasses,

speed indicators, astronomical instruments. Besides we were faced with the necessity of informing the airplane pilot, by means of instruments, whether he was turning, pitching, or tipping when all visible references such as sky, horizon and ground had disappeared. Something more reliable than a sense of equilibrium was necessary in a fog, and we therefore set out to make new instruments and improve those few already in use. I recall that at one time I counted up development projects in progress on seventy-two distinct instruments.

It was hard at first to convince pilots that they needed instruments in order to hold the plane on an even keel when flying "blind," but in the face of this opposition we proceeded with the development of the gyroscopic bank-and-turn indicator, a device for showing when the ship was flying straight

and level on an even keel. When we got it into a satisfactory state, we tried to introduce it into the Army Air Corps. The mail service picked it up because people were criticizing their schedules and they were willing to try nearly everything, and after they had tried it, the equipment came into universal use in the Air Corps in short order.

Most of the equilibrium indicating devices make use of the precession phenomena† of the gyroscope, in which the gyroscope precesses whenever its plane of

TWO years ago in The Review for November, 1925, there appeared an account of an unsuccessful attempt to fly to Hawaii, "The Flight That Failed," by Byron J. Connell, S. M., '25, second in command of the ill-fated PN-9, No. 1, whose crew and gallant commander, the late Commander John Rodgers, so barely escaped death from starvation and exposure when their plane was forced down. It is fortunate that The Review is now able to record the story of the first successful flight to Hawaii. It is doubly fortunate that the story is told by Lt. Albert F. Hegenberger, '17, senior officer and aviator in charge of the flight.*

The remarkable feat of hitting at a target 2400 miles away and only 300 miles wide in which there were two passages through either of which the fliers could have flown without sighting land, was the result of long and careful preparation by the Army Air Corps. Lt. Hegenberger played a very large part in these preparations. While it is not so generally known, as chief of the Instrument Section, he was largely instrumental in developing and perfecting such instruments as the earth inductor compass.

Associated with him in this work was Bradley Jones, '10, who, according to Lt. Hegenberger, has more flying hours to his credit than any other aviator in the Army. Jones was an instructor during the War in the Navigation Schools of the American Merchant Marine under former-Dean Alfred E. Burton. It was he who accompanied the author on the "above-the-clouds" flight from Dayton to Boston four years ago, and he who helped compute the special astronomical tables used by the author on the Hawaiian flight. The accompanying article on the flight is the first that Lt. Hegenberger has written for magazine publication.

*Aviation was coined in 1923 by the author and Bradley Jones as the equivalent of *aerial navigation*: the science, art, or method of determining an aircraft's position or course on the surface of the globe by the principles of geometry and astronomy. The word is formed from the Latin by analogy to *navigation*: *navis* (ship)—navigation; *avis* (bird)—aviation.

† If a gyroscope wheel is set spinning with its shaft coincident with one of the three axes of rectangular coordinates, an attempt to turn the wheel mounting about the second axis will actually result in its turning about the third. The motion about the third axis is called "precession," an action explainable by the application of some simple principles of dynamics.

rotation is changed. Ordinary gravity instruments such as pendulums (plumb lines) and levels are useless for indicating the attitude of the plane with respect to the ground because of the tremendous centrifugal forces which arise when the plane is turning. The same apparent shift in the direction of the gravitational force occurs to the traveller who is drinking his demi-tasse when the speeding dining car rounds a curve.

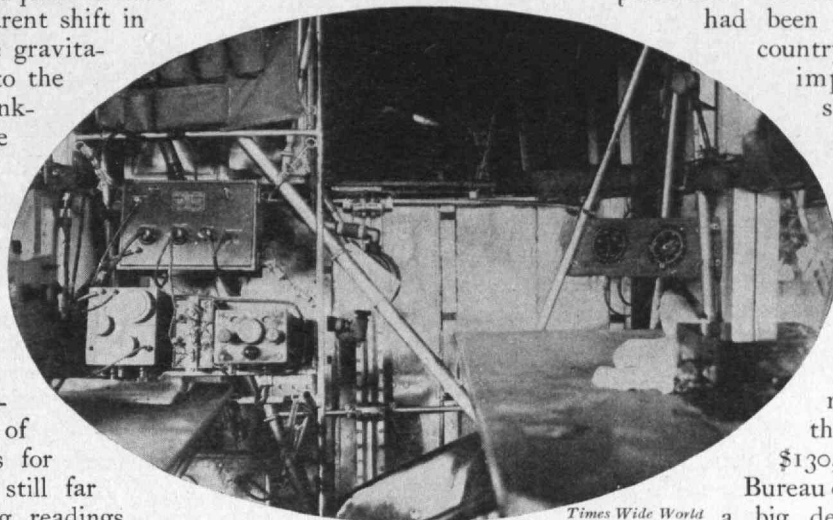
The air-speed indicator is simply a pressure gauge calibrated in miles per hour attached to a Pitot-static nozzle placed out on one of the wings. Sextants for use in the air are still far from perfect, taking readings with one on the Hawaiian flight being ten times worse than the worst piloting I ever had to keep up for any length of time. The principal difficulty is that it is necessary to find a substitute for the natural horizon which is seldom available to an airplane high in the air, even on a day when it is clear.

Our early experiences with the marine magnetic compass adapted for use on aircraft, showed conclusively that a more reliable indicator of direction must be found for accurate aviation. On shipboard, the quartermaster can easily hold his course to within one degree; on an airplane the pilot, equipped with the smaller airplane compass, is doing very well to average five degrees. Such an error would, of course, have been intolerable on our Hawaiian flight. The ordinary compass had other faults: it had to be mounted up front near the pilot in the midst of disturbing magnetic materials and ignition circuits, and it was mechanically unstable, engine vibrations easily getting into step with the swinging compass card and setting it to spinning. These troubles led us to the present day earth inductor compass instead of the gyroscope compass.

The idea of the earth inductor compass was old, the European patents having expired before we thought of taking it up in this country. A workable compass, even for ground use, had never been produced. The possibilities of the induction compass had been investigated in this country and reported as impractical, unsound scientifically, and unworkable.

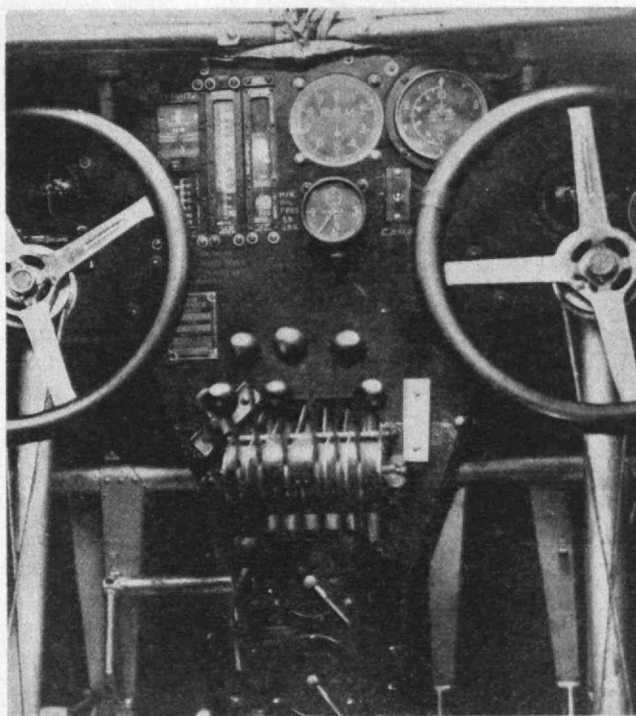
Dr. Paul R. Heyl and Dr. Lyman J. Briggs, of the Bureau of Standards thought that they might do something if we could give them the money. At that time the Air Corps had about \$130,000 with which the Bureau of Standards arranged a big development program, almost wholly pure research. About a year later we got a model which demonstrated the feasibility of the inductor compass. Later our money ran out and the work at the Bureau was discontinued. It was after a further period of some two and a half years of hard work at our laboratories in Dayton that we got a production model. We worked with three instrument companies, giving them the benefit of our laboratory and flight tests and spurring each of them on by the results that the others were getting. Eventually, we obtained our compass and used it on the above-the-cloud flight from Dayton to Boston in 1923.*

Three devices appear in the essential mechanism of the earth inductor compass system: a wind driven



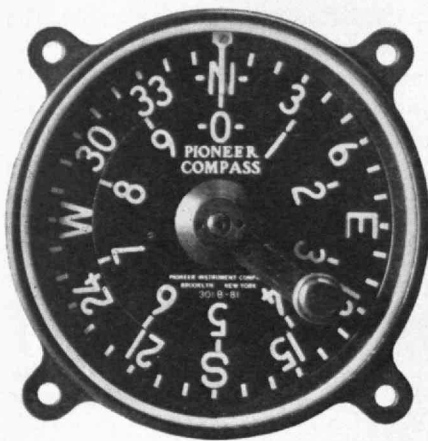
INTERIORS

Above: The aviator's compartment showing (left to right) the radio receivers, the tunnel to the pilot's cockpit, and the air-speed meter and ordinary magnetic compass used in plotting the course. The inductor compass controller is mounted outside the photograph to the right. Below: Seated before one of these dual controls and the instrument board, the pilot steers the plane in the direction shown him by the inductor compass indicator (mounted above the instrument board out of the camera's sight). The instrument labeled "Flight" is a bank-and-turn indicator



clouds, catching sight of the ground at no time until they reached the Hudson River, although they did not recognize it as such until they came out of the clouds again over Hartford. Even before this flight, Jones and the author were making unofficial plans for a Hawaiian flight. These never reached fruition.

*On September 6, 1923, the author and Bradley Jones gave the earth inductor compass its first severe test when they made a non-stop flight from McCook Field, Dayton, to the Boston Airport. Equipped with this compass, they travelled above the



CONTROLLER—FIG. 1

The earth inductor compass controller with which the aviator sets the course he wants to fly

flight; a sensitive ammeter called the *indicator* (Fig. 2) for registering the presence of generated current.

That a generator with the axis of its brushes placed at right angles to the direction of the magnetic force (i.e., placed in line with the magnetic east-west) produces no current, is a fact long known to experimenters with electrical machinery. On it the directional property of the inductor compass system depends.

To use the compass, the aviator sets the desired course on the graduated dial of the controller — north, for example — which action automatically places the brushes at right angles to the longitudinal axis of the plane. To know that he is headed in the right direction, the pilot has only to turn the plane until the brushes are lined up east and west as is shown to him by the zero deflection of the indicator needle — characteristics inherent in the behavior of the electrical system distinguishing between a northerly and a southerly course. So far as the pilot is concerned the earth inductor compass is as easy to watch as the charge-discharge ammeter on the automobile dashboard, since any deviation from the course is shown by a deflection of the indicator needle.

Since it is the earth's magnetic field which is the guiding principle in both the ordinary magnetic compass and the earth inductor compass, the latter behaves the same as its ancient predecessor. Both "point" toward the Magnetic North Pole and both are subject to the same errors of deviation and declination. Marine navigation, however, has long known how to cope with those difficulties. What is important is that the earth inductor compass has eliminated the difficulties due to mechanical instability which made the old magnetic compass

electric generator cradled pendulously in gimbals, the field magnetism for which is supplied by the horizontal component of the earth's magnetic field (Fig. 3); a device called the *controller* (Fig. 1) for shifting the generator brushes to make any desired angle with the plane's line of

troublesome, and given aviation a reliable and accurate means of determining absolute direction.

Development work of the earth inductor compass is still in progress with a view to improving upon its sensitivity. The laboratories of the General Electric



INDICATOR—FIG. 2

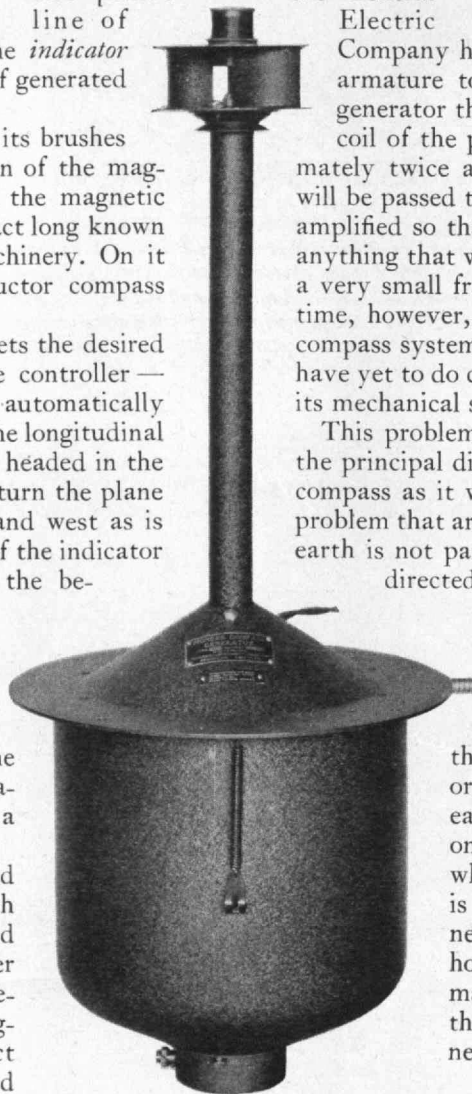
The inductor compass indicator needle shows the pilot the direction of any deviation from the course

Company have nearly completed for us a small armature to be used in the inductor compass generator that will be smaller than the armature coil of the present model and will spin approximately twice as fast (or 6,000 r.p.m.). Its output will be passed through a vacuum tube amplifier and amplified so that it will be possible, I think, to get anything that we want in sensitivity down to within a very small fraction of one degree. At the present time, however, it is impossible to use an inductor compass system of so great a sensitivity because we have yet to do considerably more work on improving its mechanical stability.

This problem of mechanical stability was one of the principal difficulties with the ordinary magnetic compass as it was adapted for airplane use. It is a problem that arises because the magnetic force of the earth is not parallel with the earth's surface but is directed up into the air, so to speak, at an

angle which varies from point to point on its surface. In all of the usual types of direction indicating instruments which depend upon the natural magnetism of the earth for their operation — both the ordinary magnetic compass and the earth inductor compass are included — only that portion of the magnetic force which is parallel to the earth's surface is utilized. It is, in fact, desirable and necessary that only this so-called horizontal component of the earth's magnetic field be allowed to act, and that the effect of the vertical component be in some manner eliminated.

The earth inductor compass accomplishes this result by maintaining the spinning shaft of the generator perpendicular to the surface of the earth at all times, no matter what the actual attitude of the plane may happen to be. The problem of maintaining the generator shaft in a



GENERATOR—FIG. 3

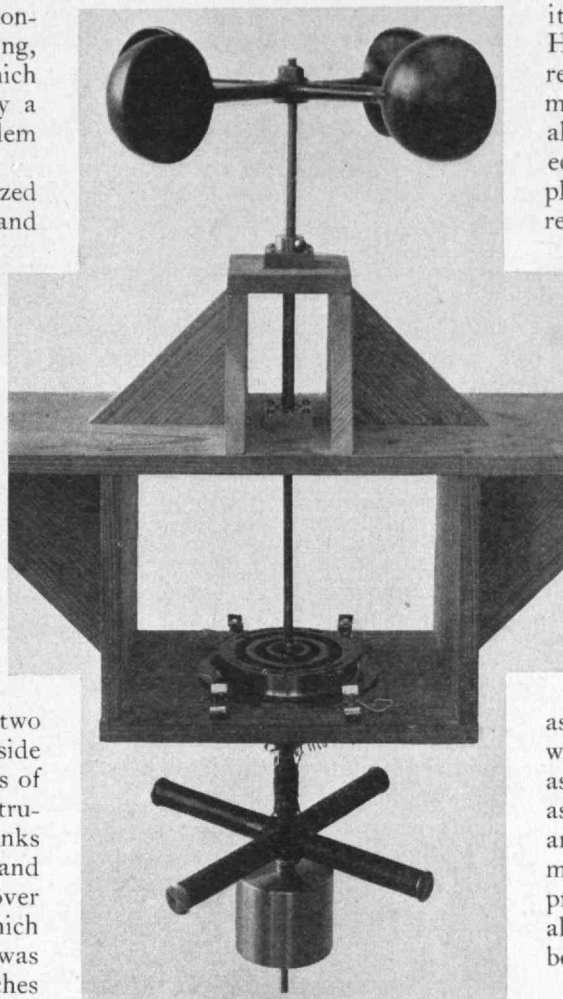
This wind-driven electric generator, the heart of the inductor compass system, is mounted at a distance from the disturbing magnetic influences of the airplane engines and metal framework. To the right are seen the mechanical connection to the controller and the electrical connection to the indicator

vertical position during all the conceivable manœuvres of turning, pitching, rolling, and so on, which are liable to be encountered by a plane in normal flight is the problem of mechanical stability.

If the armature is not stabilized properly, it may tip slightly and catch the vertical component of the earth's field, and in the vicinity of Boston, for example, the vertical component is twice as strong as the horizontal component. When this happens, variations of the indicator needle are greatly exaggerated, and, under certain circumstances, may give the pilot false information. The more sensitive the compass system, the more stable it must be.

Before concluding I would like to say something about the plane itself. There were two seats up in the pilot's cockpit side by side, and there were two sets of controls and two groups of instruments on the board. The gas tanks were in the back of the cockpit and it was possible to crawl back over them to reach the large space which was used for navigation. There was a chart table about sixty-five inches long on one side of this compartment. It was in this space that observations were made and the course of the plane computed. On the other side of this space was a radio installation consisting of a complete transmitter and two receivers. In back of that was constructed a bridge upon which the avigator could stand and look out of an open cockpit, guarded by a wind shield, to take observations — celestial observations and observations of drift. On the first page of this article is a photograph which shows the way in which these drift observations are made.

The development of the instruments and other aids to avigation I have mentioned above is steadily going forward. With the future perfection of the radio beacon which, although

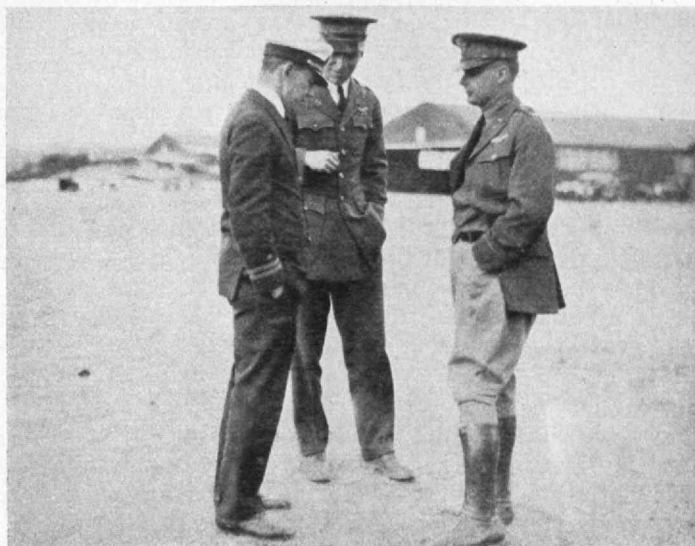


EARLY MODEL

The Bureau of Standards produced a model of an inductor compass for further development by the Army Air Corps. This photograph shows the generator used in that model

BELOW

Byron J. Connell, S.M. '25, relating some of his adventures as a trans-Pacific flier to Lts. Maitland and Hegenberger



Times Wide World

it did not help us much on the Hawaiian flight, will, I believe, revolutionize aerial as well as marine navigation, I look to see all regularly traveled routes so equipped that by their use alone planes and steamers will proceed, reserving the other aids for use only in the event of an emergency.

The trans-oceanic flights of last summer gave the general public an entirely new conception of the great possibilities of the airplane in many different fields. It has been proved quite feasible to build planes with power plants of sufficient capacity to give a cruising radius of well over 3,000 miles. And as I have sketched for you we have instruments, and are developing new instruments, by which these planes can be navigated

as accurately and dependably over water as can surface craft. Not only as a formidable weapon of war but as a force for good will and peace among nations and as an instrument of commerce, has the airplane proved itself. The development in all phases is going on by leaps and bounds; there is an unlimited future.

There is frequent discussion among laymen about the relative merits of lighter-than-air ships and airplanes, and undoubtedly the public romanticization of trans-ocean airplane flying has tended to put the dirigible in the background. But they both have their field; the dirigible is better than the airplane for carrying heavy loads long distances.

Airplane lines will probably feed dirigible lines, and they will complement each other.

I have been asked by many people about the thrill in trans-oceanic flying. Well, given a good plane and engine such as we had, and our instruments, plus the coöperation of the Army Air Corps and the weather, most of us who have tried it have found that it gives about as much kick as an attempt to get 100 per cent on a condition examination in physics.

Science and Political Science

Four propositions by an eminent historian who sees the study of government to be of equal importance and worthy of as much research as the study of technology. An abridgment of a speech delivered before the Public Service Institute held under the auspices of Technology and the Massachusetts Civic League

AMERICA is proudly individualistic. Do we not praise the self-made man, as if he had lifted himself by his boot straps in a vacuum? Do we not make heroes of successful captains of industry? Do we not sometimes imagine that America owes all her greatness to driving, dynamic personalities — inventors, capitalists, editors, and merchants — who in pursuing self-interest, as if by accident, enrich the masses and exalt the nation? Probably in no other country do the people pay so much lip tribute to the state in public and at the same time, in lauding individuals, so efficiently depreciate the significance of the state while cursing in private its incompetence, interference, and expensiveness.

To this whole popular theory of political science, the facts of the social order offer an undeniable challenge. If the state should fail, if its servants should quit, and its functions be abandoned, our inventors, captains of industry, editors, critics, and merchants would find themselves helpless, futile, running about after the fashion of sheared sheep crying, like Wellington at Waterloo, for help or nightfall. In the dissolution of the Roman empire and the thousand years of anarchy that followed it, in the present state of China, illustrations of the stubborn possibilities inherent in the downfall of the state can be found. Dissolve the state, and the whole American continent would fall into the deadly grip of disorder, the national market would be torn up, industries would be paralyzed, railways would wear out and grass cover their tracks, deadly plagues and epidemics would sweep the cities like fire, poverty would spread like a blight along its avenues, and banditry would terrorize the countryside.

In short, all our inventing, manufacturing, educating, editing, painting, and engineering are carried on within the framework of the state. Without its support and its steady functioning day and night all such high endeavors of the human mind would sink downward toward the abyss. And that state of which I speak is not merely the armed might of soldiers and policemen. To them must be added the millions of civilian servants, upon whose skill and competence even the military portion of the structure rests — servants for the most part nameless in history and unsung in celebrations. No doubt the state would be as naught if not supported by the intelligence and energy of its citizens, but they as individuals without the state would be as primitive barbarians wearing out their inventive and productive powers in a bare struggle for existence.

This capital, but often neglected, fact — one of revolutionary significance — is the fact which I want to emphasize, pleading now for a more scientific and a deeper interest in the subject of politics and administration considered as the science and art of management.

By CHARLES A. BEARD

Co-author of "The Rise of American Civilization"

In the field of business enterprise, we offer praise and treasure to the bearers of new ideas; there we celebrate daring imagination and prophetic gifts; there we welcome and support with lavish outlay unresting researches for new ideas and practices. But with respect to the field of political science, the very men who cheer the inventor in mechanics are the first to damn the faintest suggestion of novel conceptions of the state, to condemn as Bolsheviks anybody who suspects that George Washington and Thomas Jefferson, with all their patriotism and wisdom, did not discover the last word in the science of statecraft.

II

With these gracious reflections by way of introduction, I want to lay down four propositions which in my opinion are incontrovertible and when philosophically considered, place the subject of political science high among the intellectual interests of our age.

The first is that technology is the foundation of modern civilization, as the state is its retaining wall. Let the engineers and scientists quit and the whole cultural order would revert to that of eighteenth century agriculture. In that case, electric lights would go out; water would cease to flow in the pipes; silence would fall upon the humming telegraph wires; the printing press would sink down into rust; yellow fever, cholera, small pox, and bubonic plagues would fill our avenues with the spectres of death. Then where would the great and wise stand — the puissant bankers, editors, preachers, jurists, and high-brows generally?

My second proposition is that technology is a new factor in civilization, now at the beginning of its career, an irresistibly dynamic factor which under the drive of business enterprise and the popular demand for comfort, safety, and convenience will hurl into society one epoch-making invention after another, changing, rearranging, and challenging the state, throwing upon it ever-increasing burdens, calling upon it for ever more complicated services, straining its creative and administrative energies to the limits of human capacity — and beyond.

My third proposition is that technology has already turned the state of our ancestors upside down, transforming it from a police state into a service state. For example, there are in the United States at least ten times as many civilian servants as there are soldiers; the City of New York has only fourteen thousand policemen protecting life and property by force, while more than one hundred thousand civilian employees serve it in the discharge of community functions.

My fourth proposition is that nothing under heaven can stop the inexorable march of this modern Cyclops, technology; that on the contrary, it is the high and

appointed servant of that noblest concept of the human mind, namely the subjugation of the material universe to the welfare of humanity, and will march from triumph to triumph in the coming centuries.

All this, I contend, is not fanciful. It rests upon realities as invincible as the established properties of matter, perhaps more invincible than the second law of thermodynamics or the Darwinian theory of evolution. Visible to the eye and ascertainable in records are the facts. First of all is the increase in the functions of government during the past twenty-five years. Consider for a moment the community obligations assumed by the state with reference to health, education, the regulation of utilities, the protection of manufacturing interests, the upbuilding of the mercantile marine, the promotion of foreign trade, the construction of highways, the conservation of natural resources, the plannings of cities, the provision of park and recreation facilities, the lending of money to farmers, and a thousand other activities which could be mentioned. Turn over the statutes of the Wilson administration and see how many new functions were added to the work of the federal government. Then turn over the statutes of the Coolidge administration and see how many more were added to those already sanctioned. The functions of the state are growing. All parties decry the fact. No party changes the fact. While details may be altered here and there, no party can change the remorseless movement of technology and social forces with their inevitable repercussions in politics.

III

Out of this multiplication of public functions in number and complexity has grown a corresponding increase in the number and variety of public servants. At the present time between two and three million people are employed by our governments, national, state, municipal, and rural. Still more significant is the fact that they represent all the arts, crafts, sciences, and professions known to mankind. The list of civil servants in New York opens with arboriculturists at the top and runs down through architects, civil engineers, electrical engineers, nurses, physicians, to x-ray experts and zymotic disease specialists at the bottom. In a word, all the wisdom and all the talents of humanity, the hardness of exact science, and the tenderness of the nurse, are summoned to the aid of every city. The mayor of Boston presides over an organism of administration more complex and calling for more diversified talent than any system of government ruled by any European monarch from the fall of man to the end of the

eighteenth century. President Stratton does not appear in the headlines, is not featured in the movies, and may not be as well known as Charlie Chaplin, but by his long and patient intelligent services in a single bureau in Washington set in train operations in one field alone which, on a conservative estimate, save the people of the United States every decade a sum equal to Henry Ford's fabulous fortune, to say nothing of his other achievements even more significant in character. To add another illustration from a thousand that could be adduced, it is noteworthy that at least one-third, perhaps almost one-half, of all the trained civil engineers in the United States are in the employ of our governments, national, state, and local.

Besides calling for all sciences, crafts, arts, and professional lore, the state uses in its operations all known materials, from asphalt to zinc, considered alphabetically. For its museums, it must even judge the quality of the fine arts.

In carrying on its operations, the state takes an increasing amount of the citizens' wealth, whether an increasing proportion, we do not know. As a mere illustration, the City of New York spends about five hundred dollars a year per family for community purposes — a sum equal to at least three times the average annual family income in China.

Space is relentless, but surely in my blundering way, I have presented an array of irrefragable data that challenges the finest intellectual mettle which America produces. And the upshot of it all I now desire to put in a single proposition: "The study of the state, its functions, its rôle in civilization, its relation to national grandeur and destiny is as worthy of our labors as the study of technology, is indispensable to the indefinite progress of technology, and deserves an endowment and equipment equal in proportions, deserves the consideration of minds equal in capacity, and calls for the same kind of scientific approach that has made invention the glory of our country." As integral parts of our engineering schools, our business colleges, and our universities, let us build schools of public administration and government, remembering with Emerson that the state follows, at a distance and haltingly, its thinkers and that thought summons us to live not by bread alone but by the noblest use of our national opportunities, doubting not that America standing in the full plenitude of her youth, equipped as the strong man for the race, will earnestly strive to cast off the dross and win for herself a high place among the creative civilizations of history — those that have gone down over the horizon and those that are to come as the dawn approaches the noon.



Undergraduate Affairs



George H. Davis

STATESMEN ALL

The Institute Committee in its first session of the fall term, succumbs to ennui as Elisba Gray, '28, its Secretary, re-reads a motion. Gray is hidden behind the towering bulk of the chairman, Ralph T. Jope, '28, victorious leader of the Jopesonian Democrats

The Parliament Nobody Knows

ONLY those twenty-seven statesmen whom popular vote or arduous labor in their activity have elevated to the High Place of Technology student government, only these and a few reporters for *The Tech*, duty bent, ever see the Institute Committee in action. So much is that legislative assembly ignored by the more stolid of the citizenry that at no time, in recent years at least, has a photographer dared enter the Cave-of-the-Winds (the Committee usually meets in the Faculty dining room) to catch this mysterious body at its work. Nor is it any give-the-password, advance-to-be-recognized shibboleth that keeps the curious undergraduate from peeping into the gears of the government's machinery, for visitors may attend meetings, even speak from the floor with the permission of the house. The reason for it all is simple — there is no curious undergraduate.

But he cannot be blamed, because he little realizes that the Institute Committee can furnish him with as much interesting instruction in involved parliamentary

procedure and as much material for treasonable humor as either of our national legislative bodies. He can hear motions made, seconded, amended, re-amended, tabled, resurrected, and brought to a vote by "question"; he can see the butter-and-egg men and politicians of the Institute community (as our camera saw them) sedate, parliamentary, pompous, probing. Occasionally there occurs a display of pyrotechnics: a Field Day riot is "investigated"; an attempt is made to lop dead wood, now suddenly come to life, from off the list of Institute Committee participants; someone hurls and endeavors to prove charges of election fraud. All this is spicy entertainment, but the contented and well governed citizenry overlook it, even as *The Tech* and *VooDoo*.

What then is this Institute Committee? Hidden away in the T. C. A. (Technology Christian Association) Bible is the constitution of the Massachusetts Institute of Technology Undergraduate Association of which every student is *ipso facto* a member, and buried in the legal intricacies of that document is to be found the answer to the question. "All the legislative and execu-

tive powers of this association are . . . invested in . . . the Institute Committee," subject to popular referendum. The Committee's membership consists of the President and two other representatives from each of the four undergraduate classes, one representative from each major activity, one from the Dormitories, one from the Architectural Society (composed of the students at the Rogers Building), and, ex officio, the chairman of each of the standing committees of the Institute Committee. The President of the Senior Class, this year one Ralph Theodore Joep of Portland, Maine, presides.

Anything outside the curriculum and the administration of it to which the adjective *undergraduate* may properly be applied, falls under the jurisdiction of the Institute Committee. It directly or indirectly controls all activities; says who can and who cannot solicit money for charitable purposes from among the students; says which organizations may and which may not appear before the public at Technology undergraduate organizations; sees that a proper accounting is made of all activity funds; provides for the disbursement of the annual dues which all undergraduates pay; operates the Circus, Field Day, Junior Prom, and Senior Prom; and so on. It is an all powerful body, recognizing only the authority of the Undergraduate Association, Allah, and the Cambridge police.

Legislative Problems

Before the Institute Committee this year will probably come several problems, the most important of which will be that of the administration and control of Field Day, the annual contest between the sophomores and freshmen for supremacy on November 4. With the ructions of a year ago in mind, the Institute Committee last spring appointed a committee to suggest ways and means of improving Field Day, and with that work as a guide, the present rulers have adopted three basic points upon which to build their Field Day plan.

First, Field Day will begin at noon on Friday, November 4, and close with the last officially scheduled event of that afternoon. Second, all of Field Day will be confined to the Institute grounds — steps to prevent participating students from celebrating off Institute property have already been taken. Third, some kind of a mass battle will form an official part of the Field Day program. Present plans call for furnishing the freshmen

with gloves of one color, the sophomores with gloves of another. Each group will try to remove the gloves of the other group, at the same time retaining possession of their own. Proponents of the plan talk lustily of working off animal energy, without a concentrated mob scramble that a fight for a single object causes.

After Field Day, other legislation must be considered: further means of curtailing smoking in the corridors of the Institute; the abandonment or enforcement of the

Freshman Rules; the question of having another All-Technology Circus after the overt acts at the one last year. All in all, Technology's twenty-seven kleagles should have a busy, busy time of it.

The Political Situation

As undergraduate political history goes, this is the era of Jacksonian, or rather Jopesonian, Democracy. "The wild men of the Mississippi region", which, translated into local terms, means the dormitory inhabitants have captured the citadel of undergraduate government. As a sort of agrarian party they have pushed out the fraternities with their philosophy of *noblesse oblige*, the counterpart of the old landed and industrial gentry which succumbed to "serried hosts" of farmers and workers in the Jacksonian era.

Joep, the leader of the agrarians or Dormitorians, entered the lists last spring as a gladiator-at-large for these new masses, and the completeness with which he consummated the downfall of the Whigs was something terrible to behold. Sage political observers are now declaring that the fraternities will never elect, by themselves, another Senior Class President; all they can hope for will be a Daniel Webster to make compromises with the growing number of dormitory men. Considerable apprehension is felt as to the

probable attitude of the new party toward activities, for it is known to number among its supporters several radicals of the bomb throwing, down-with-constituted-authority type. Crystal gazing into the political glass ball, on the other hand, shows nothing at all.

UooDoo versus The Tech

Such is the mood and tempo of modern life that the jaded minds of all of us demand sensation; the journalist, to be read, must write at the top of his voice, and a book, to be read, must be stunning and controversial.

FRATERNITY STANDINGS

THE fraternities are arranged in the order of their relative scholastic standing over the period from June, 1921, to June, 1927. Figures following in parentheses indicate standings at the end of the second term, 1926-27. Standings for the first term, 1926-27, were published in The Review of last May.

- 1 Tau Delta Phi (12)
- 2 Psi Delta (9)
- 3 Sigma Alpha Mu (6)
- 4 Phi Beta Delta (1)
- 5 Alpha Mu Sigma (4)
- 6 Delta Psi (26)
- 7 Tau Epsilon Phi (3)
- 8 Sigma Nu (8)
- 9 Theta Chi (7)
- 10 Phi Gamma Delta (2)
- 11 Sigma Chi (17)
- 12 Sigma Alpha Epsilon (16)
- 13 Lambda Chi Alpha (15)
- 14 Phi Kappa Sigma (19)
- 15 Delta Kappa Epsilon (18)
- 16 Chi Phi (11)
- 17 Alpha Tau Omega (14)
- 18 Delta Upsilon (21)
- 19 Kappa Sigma (5)
- 20 Phi Beta Epsilon (27)
- 21 Beta Theta Pi (20)
- 22 Kappa Eta Kappa (24)
- 23 Theta Delta Chi (10)
- 24 Delta Tau Delta (25)
- 25 Phi Mu Delta (28)
- 26 Phi Sigma Kappa (22)
- 27 Theta Xi (13)
- 28 Phi Kappa (23)

Of this condition of affairs we have nothing to say pro or con; we desire only to point out a reflection of it in this undergraduate community.

As it has been explained elsewhere, the average undergraduate has so insulated himself from the steaming roar of politics, as have all good Americans, that he can derive not the smallest tingling sensation from the occasional fireworks on the local scene. Perhaps this is the fault of the Institute Committee, but we hardly think so, even if the local comic magazine, *VooDoo* does.

VooDoo has been wise enough to perceive the current demand for "hot stuff," and the seeming absence thereof at the Institute, and in a blundering sort of way has tried to cook up and serve out a steaming dish or two. We say in a blundering sort of way advisedly, for the magazine editors have been very unwise in their choice of controversial material. They have Quixote-like tried to tilt at a fast-working windmill that can land about twelve better timed blows each month to their one. That is, they perennially attempt to attack the tri-weekly undergraduate newspaper, *The Tech*, and invariably come off somewhat the worse for it, though perhaps they have succeeded in causing a ripple or two in the Sargasso Sea of undergraduate affairs, succeeded slightly in responding to the modern desire for journalistic pyrotechnics.

Of all undergraduate publications, *The Tech* has taken upon itself the hardest job — that of combining the natural purpose of being a full-fledged newspaper, untrammelled and free, with that other necessary function of furnishing a consolidated publicity house organ for the variegated activities. To follow either of these lines is a Herculean task; to attempt both of them simultaneously is an heroic stunt, prompted by economic necessity and the unbounded optimism of undergraduates. When it falls short of doing both jobs well, as it surely does, a tolerant observer sees why. But not so *VooDoo*; itself a not altogether indispensable house built upon the sand, it has the superb abandon of the unimportant for attacking that which is necessary and important. But

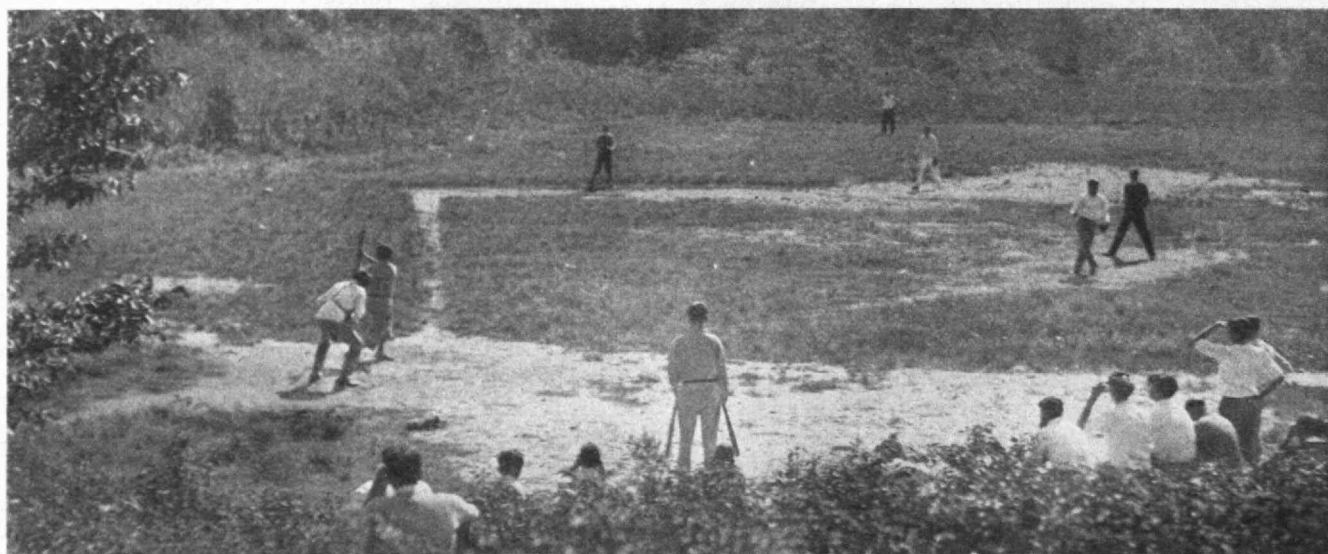
as we suggested earlier, it is in consonance with present day spirit to be intolerant, even when that intolerance barks up an empty tree.

This year's first issue of *VooDoo* contains an attack on the newspaper. To date the attacked has not replied except in a veiled way through *The Lounger*. In no sense is the present squabble as acrimonious as that of two years ago, when there was an explosion that must have sent Charles Dana galloping with chortling glee down the halls of Valhalla. And it is hoped that this one, as well as the succeeding ones which are bound to come, will be less scurrilous on both sides. There is too much opportunity for constructive journalism on the part of both *VooDoo* and *The Tech* to waste space by the throwing of verbal brickbats.

The Well Dressed Freshman



The neat "dinky uniform" of which Isaac W. Litchfield, '85, wrote, calls up a memory to the Technology man that depends upon the style era in which he did his drilling. Military styles change as do those in civil life. This fall marks the end of one era and the beginning of another, and with the new comes another and a better concept of neatness in "dinky uniforms."



BASEBALL

L. J. O'Malley

Freshmen to the number of 120 and their advisors attended a camp during the week-end of September 23 under the auspices of the Technology Christian Association

Replacing the short visored cap, high collar, and spiral puttees of recent years appears this new outfit. It, like the old, is of olive drab, but it makes three important concessions to comfort: an overseas cap, a blouse with an open collar, and leather puttees. Beneath the blouse, which used to cover completely the shirt, peeps out the familiar army shirt and the cardinal and gray cravat. An explanation of this latter, the Military's concession to civil authority, is given elsewhere in these pages.

Freshman Camp

Last year for the first time a limited number of freshmen went to a camp at Dunstable, Mass., held prior to the opening of school by the Technology Christian Association. So successful did that camp prove as a means of acquainting new men with Institute upper-classmen, officials and undergraduate affairs that it was repeated again this year with a larger number of freshmen attending.

Over the week-end of September 23, 120 freshmen were taken by bus to Lost Lake, upon the shore of which the camp is held. The program of discussion groups, talks by activity men and members of the Faculty, and general entertainment kept the freshmen busy for the three days. There were sport events squeezed in between items on the program. The result this year, clearly discernible among the freshmen, was most encouraging and probably means that the camp will become a permanent affair for future years.



ACTIVITIES

John S. Middleton, '28, General Manager of The Tech Engineering News, expounds to freshman campers the value of activities in general and of the T. E. N. in particular

3. Freshmen are expected to say 'Hello' to all students they meet on the Institute grounds.

4. Freshmen should not loiter around the Main Lobby, or sit on the benches in the lobby. If the freshmen win Field Day, this restriction shall be abandoned.

5. Administration of the above rules shall be delegated to a Freshman Rules Committee . . . [with] the Vice-President of the Institute Committee as ex officio chairman . . .

6. When an upper classman or a freshman sees another freshman violate the above rules, he shall immediately inform the Freshman Rules Committee . . . When four violations have been reported against one freshman, he shall be sent a summons to appear before the committee.

7. Enforcement of the rules is at the discretion of the Freshman Rules Committee."

With the first few weeks of school already passed, it appears that the idea of a standard necktie is meeting with the approval of the freshmen themselves who see in it an effective class marker for pre-Field Day organization. After Field Day, when the need for organization vanishes, will come the acid test of the plan. The other rules are almost com-

pletely ignored, largely because the upper classmen and Faculty find it irksome to acknowledge the timid Hellos. Sophomores and other upper classmen seem unwilling to take the trouble to report violators. The whole system is on trial — what the result will be, no one who is not an extreme optimist or an extreme pessimist dare predict. This much may, however, be said: freshman rules are not being ridiculed by either students or Faculty. We call to witness the very recent action of the Department of Military Science and Tactics in prescribing the regulation striped tie to be a part of the required freshman uniform!

Assimilation

Upper classmen, if less acute in their awareness, are just as cognizant as Institute officials of the need for assimilating freshmen into the life and atmosphere of the Institute. For naturalization purposes they have instituted and yearly operated several devices, chiefest of which are the Freshman Camp, elsewhere described, and the All-Technology Smoker, an evening of sugar-coated propaganda (in the best sense of the word) and entertainment dedicated entirely to newcomers to the land of the slide rule and Eddie Pung.

What is this Ruling Class?

Not content with the regulations of the R. O. T. C. which enforces a freshman distinguishing mark for at least two hours each week, the Institute Committee last spring adopted a set of "Freshman Rules," among which is one that requires him to wear a standard four-in-hand necktie, a cardinal and gray striped thing with the one inch stripes running upward to the left at an angle of 62° with the horizontal.

The section in the T. C. A. Bible which explains the new rules reads in part: ". . . In order to create the necessary interest in Technology among the entering class and to familiarize them with its traditions the following freshman rules are presented . . .

1. All freshmen should wear regulation ties . . .

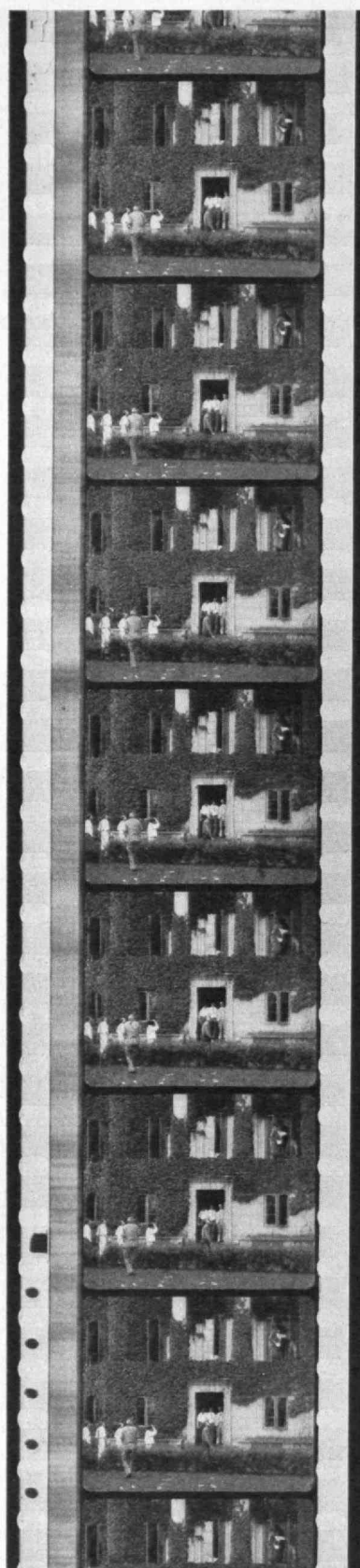
2. Freshmen are expected to speak to all members of the Faculty and to tip their hats to the President of the Institute and the Dean.

If it were wished, as it is, to present an exemplary specimen of this latter event to impress an outsider and prompt a compliment or so, a better selection than that of this year, held on October 7, could hardly be recalled. Even James Adam Lyles, last year's Senior Class President, must reluctantly agree with this, just as his bouncing, blooming predecessor by three years, William H. Robinson, Jr., must concur. To Jopesonian Democracy credit one excellent All-Technology Smoker to offset, in a measure, its freshman rules which smell so unmistakably of Siwash and the dank swamps of the Aroostook.

In giving an account of this affair we quote the time and schedule of the events as set down in the program, knowing full well that intelligent and experienced readers will realize that this time and schedule were not adhered to. The place as announced turned out to be correct: Walker Memorial, capital of the undergraduate commonwealth, Pung's palatial palace and Pancho Bridges' pot shed, all rolled into one. At 6:15 P. M. the freshmen were carefully and conservatively banqueted as a form of gentle and strategic preparation for the hour of 7:00 at which time they were regaled with expert testimony on the virtues of the different forms of extra-curriculum activities. Professors Archer T. Robinson and Robert E. Rogers of the Institute's Department of English and History and Dr. John A. Rockwell, '96, chairman of the Alumni Advisory Council on Athletics, spoke respectively on the value of (a) publications, (b) Tech Show and the Musical Clubs, (c) athletics. With rhetorical devices and beguiling manner they proclaimed the competing advantages of the different fields.

Theoretically it was 7:30 by this time and the freshmen were entertained in activity offices until 8:20 when the big show opened in the Main Hall with an attempted trick or two by Magician L. J. O'Malley, '28. Within ten minutes Dr. Samuel C. Prescott, '94, President of the Alumni Association, presented with appropriate words the symbolical key of the Walker Memorial Building to Senior President Jope.

Within another ten minutes Willard J. Slagle, '28, President of the Athletic Association, was present-



"WATER"

The Movietone records a noisy water battle at the dormitories. The sound record on the striated strip at the left of the picture frames operates a photoelectric cell in the projector. The resulting electrical pulses are amplified, and converted into sound in a loud speaker placed behind the silver screen

ing to Frederick D. Riley, '28, manager of Swimming for 1926-27, the Swartz Medal for the most distinguished service as a manager of a Technology varsity team, and was presenting the Technique cup to Henry G. Steinbrenner, '27, for winning the most points in track meets during the past year. The latter, having been graduated, was not there to receive his award.

The Glee Club was next on the program and they managed to draw several encores, as did that Glee-Club-In-One, Orville B. Denison, '11, and then came the descent to Avernus — the vaudeville entertainment. It reached its nadir when the aforementioned Mr. Denison deemed it necessary to revive affairs with his own dignity by giving a dance with an embarrassed entertainer.

The much heralded Movietone exhibition was next in order and certainly constituted the most impressive thing on the program. These talking pictures of Institute men and Institute activities were made last spring by the Fox Case Corporation for the Technology Clubs Associated Convention in New York. The two reels that were shown demonstrated the tremendous possibilities of this form of reproduction as a historical recording device and as a form of entertainment.

The first reel was the same as the one shown at the New York Convention, more undergraduate doings and speeches from the Faculty replaced the blaring bands and endless marching of Mussolini's troops of the Convention's second reel. Undergraduates, more critical of faithful reproduction than graduates several years removed from the active scene, received the presentation with well-controlled enthusiasm, spontaneously taking up the Stein Song as the phantom glee club brought the demonstration to a close.

And there you have it. The Smoker is an event that still has potentialities. Invaluable now, if elevated somewhat into a more rarefied, cleaner, and exhilarating stratum of Institute atmosphere it may be one of the most influential of Technology undergraduate affairs. But the vaudeville and other bilge water must be put overboard before that can happen.

News from the Classes

Apologia

THE idea of a preface to the News from the Classes has been germinating slowly in the warm atmosphere of The Review's inner sanctum, the abode of the Scoundrel with Square Spectacles who doctors the copy. A clearly evident pathological condition prompted the plan: much material germane to all Review readers, items of genuine import, of first-rate interest, finds its way into the various compositions of the Secretaries and is never seen by any but members of the class under whose numeral it is printed.

For example. Last spring Roswell Davis presented in the 1905 notes the best symposium of opinion on the question of football at Technology that has come to our attention — and we attended all Alumni Council meetings last year. In the 1907 notes on page 44 of this issue a feat of reunion finance is described which all reunion promoters should know about. On page 53 William B. Coleman, '24, X (all honor to his name), utilized a new device for announcing marriages. The 1892 notes contain the confession of a near-crime committed by a General of the Marines. Dr. Allan Winter Rowe, '01, in his opus included herein darts about in his best *fin de siècle* style to take a thwack at editorial law and order in a manner interesting to almost anybody. And so the examples could be extended.

All of these items might be read by members of the class in whose notes they appear; experience has shown that they are read by few others. The Editors, including the above-mentioned Cerberus-like Scoundrel, with the quixotic idealism that editors always have, are wont to remedy this situation by the simple device of prefacing the Class News with remarks purposed to call attention to items throughout the

section. Since they monthly have to read involuntarily all of the notes, they feel that they might induce others voluntarily to read some of them.

There is also a corollary plan. Too many Secretaries hide their faces as well as their lights under a bushel. It is hoped each month to present to public gaze on this page the life and likeness of one of them. These will constitute a roll of honor, if you please, — a tribute to members of the Association of Class Secretaries who labor mightily and fruitfully.

Whereupon the editorial gauntlet is thrown at the feet of the Secretaries and the business of the moment is underway.

I. The Secretary of 1896

For a number of years "Charlie" Locke has appeared at the reunions of the Class of 1896 with a silk plug hat canopying his pate. No less than the more renowned but less dignified

plug of Uncle Sam, this hat has come to be a symbol — the symbol of an institution. Professor Locke has inexorably developed into an institution — an institution for the collection and dissemination of news about everybody and every incident connected with Technology. Beyond all question he submits more news to this magazine, not only about his own class but about all the others, than any other individual. (See the 1924 Class Notes.)

The fact that he is an institution characterizes the man, — the warmth and calmness with which he watches and records the lives and works of those who come within his seemingly omniscient purview, the drawing power which brings through *der Konvergenzpunkt* of Room 8-109 such variegated streams of personal news. The correspondence that flows to and from that old roll top desk justifies the old piece into taking on the airs of a more modern and pompous desk in the office of the Alumni Association. The Professor is an Alumni Association all in himself.

In an old German restaurant in Boston works a waiter, plump and chubby, well-known for a geniality that aids digestion. He is almost the double of Professor Locke. Superficially we find ourselves attaching a great deal of importance to this verisimilitude, for the two men have an unescapably evident common denominator in their gregarious instincts.

Born August 29, 1874, at Milton, New Hampshire, Secretary Locke was made instructor in the Department of Mining and Metallurgy in 1901, Assistant Professor in 1906 and Associate Professor in 1919. Much might be said of his academic and professional career, but for that we refer you to the current edition of "Who's Who in America." On June 9, 1908, he was elected Class Secretary, and, with the exception of one year, he has



CHARLES E. LOCKE, '96

Since 1908, Secretary of his Class, he has made himself indispensable by his industry and his silk plug hat

held the job since then. At the Thirtieth Reunion of the Class a substantial gift was presented to him. This gift plus the yearly royalty from the Professor's books enabled him to purchase a Packard in which to betake himself and the plug hat in fitting dignity to future reunions. And we venture to prophesy that not even a Rolls Royce could relegate the silk plug hat to the limbo of disuse.

To Be Specific

Class Secretaries in general will attach considerable import to the news (a) that the Class of 1886, School of Mechanic Arts, presented James T. Ball with a Swiss watch, (b) the Class of 1902 remembered Frederick H. Hunter with an automobile, and (c) the Class of 1907 gave a watch to Bryant Nichols. The class secretaryships are not such bad jobs after all. — Undoubtedly the Class of 1912 will wish to defend itself against the scurrilous inferences of the 1917 Secretary in this issue. — The thoroughly interesting and exuberant reunion account of the above-mentioned Secretary is

well worth the reading. — Considerable apprehension must be expressed over the situation that might arise, now that 1918 has a woman Secretary, if the Class should vote to hold a stag party. The presence in these pages of Miss Palmer is definite evidence of the arrival of these modern women. — In the person of Eugene E. Hultman writing in the 1896 notes is discovered a formidable rival of Burton Holmes. His travelogue is worth the reading. Note also the action of 1896 in helping a crippled son of one of its late members and its donation to Institute athletics. — Finally, the Class of 1927 bursts into luxuriant bloom fittingly to close the section.

Youth Will Be Served

A new form of sport is suggested by a recent experience had by Robert H. Richards, Secretary of the Institute's first Class, a noted mining engineer, and the Institute's oldest graduate. Let him tell it as he wrote of it in a letter:

"I have often wondered what I should have said if my friend had asked me what I should do if a por-

cupine came at me in the dark, what I did do was to kick the porcupine sixteen feet with my bare legs and bedroom slippers. Mr. P. picked himself up and came at me the second time, and again I kicked him sixteen feet. If you want to realize what I did, try kicking a twenty pound football sixteen feet and you will partly find out, but you must remember the football has no quills. The third time he came for me he was wily and swerved as he neared me, but I did not see this and kicked with all my might as before. The result was my foot went so high in the air it carried the other foot with it and left me without visible means of support. The boys say I fell fully three feet on the hard floor. This is the worst fall of many falls I ever had. It was minutes before I could move, it hurt me so.

"I finally succeeded in getting up and proceeded to pick the quills out of my shin, and my slipper was found at the far end of the verandah also full of quills. The porcupine went between us and disappeared in the dark, and he is undoubtedly telling his children what a wonderful porcupine he is."

'82

The Forty-Fifth Reunion was celebrated, on June 17, at the Mayflower Inn at Plymouth, Mass. The presence of the ladies added, not only to the numbers but, as in recent years, to the very material enjoyment of the occasion. Comprising the total attendance were Miss Ames, Mr. and Mrs. George F. Chapman, Frank Cheney, Jr., Alfred L. Darrow, George Faunce, Mr. and Mrs. Charles A. French, Fred M. Gooding, Mr. and Mrs. Rufus F. Herrick, Mr. and Mrs. Charles D. Jenkins, Mr. and Mrs. Lloyd G. Lewis, Henry F. and John H. Ross, Mr. and Mrs. Walter B. Snow and Miss Rachel P. Snow. — Chapman, so long shut out from attendance of class reunions by his residence in far-away Wyoming, and now a permanent resident of Plymouth, was naturally on hand, — for the second time in all these years. Faunce was on from Pittsburgh and Cheney came up for the day from South Manchester, Conn. (See the picture on this page)

The delightful gathering of last year at Frank Hall's home had made every one hopeful that he might be able to attend this reunion, but "You will have to mark me off from any meeting farther off than my back yard" was the disappointing and typical answer that he was obliged

to send in reply to the reunion notice. The interest of the Hall family was, however, thoughtfully displayed in flowers sent for table decoration by Frank's daughter, Louisa, who did so much last year to make a success of the surprise party on the occasion of the Hall's twenty-fifth wedding anniversary.

Some entertainment was furnished Plymouth by the distribution of specimens of first year work in '78 and '79 and of blue prints of drawings executed by members in '79 and '80. Naturally there was considerable discussion of plans for the Fiftieth Anniversary. — Rufus F. Herrick, whose association with

Alfred L. Darrow has been so helpful to the Secretary in planning recent reunions, was chosen Vice-Secretary to succeed Greenville Temple Snelling, who died April 2, 1920. — A good long letter from Adams was read, and one from Mrs. J. H. Walker telling of her husband's nervous breakdown about four years ago. Letters of regret were received from a number of members who were unable to attend.

The following extract from a letter from Carrie L. (Rice) Clark, from 4714 Third Avenue, Los Angeles, Calif., is self-explanatory: "Your letter of June 22 reached me after some delay, as I was away from home on a short trip and had my mail held there until my return. I am surely sorry I could not have attended the Reunion but will try to attend the next one. My family now is grown and since my husband's death in 1914 I am free to do anything my purse will permit. It is small wonder that letters addressed to 137 W. Pico Street failed to reach me, for when our main business street was extended three blocks it went right through our yard. The actual work was not done until after the war, but the condemnation took place some years before we moved about seven miles out in anticipation of what was to come. Since my hus-



The Forty-Fifth Reunion group of the Class of 1882

1882 Continued

band's death I have been listed in the directory under my given name, so the Post Office could hardly find me as Mrs. S. P. I hope that I may see you out here some day before the next formal reunion." — WALTER B. SNOW, *Secretary*, 115 Russell Avenue, Watertown, Mass.

'84

The following nine members of the Class dined together at the University Club on Thursday, June 9: Bennett, Chase, Coburn, Dearborn, Doane, Fitch, Puffer, Stuart and Tyler. Notes and letters of regret (or otherwise) were received from a number of the absent members to whom cordial greetings are returned. It was the opinion of those present that Gill should atone for his absence by bringing Holder to the next dinner.

Announcement has been received of the death of Robert R. Goodrich, August 11, at his home in Montana as a result of serious exposure in connection with his professional duties. Goodrich was born April 18, 1864, at Hartford, Conn., and has the unusual distinction of taking a Master's degree at the Institute in 1902, seventeen years after his S.B. in mining engineering was received. His early professional career included work on the Chesapeake and Ohio, in the Pocahontas Coal Fields, in Texas and Mexico. After taking the Master's degree he was connected with the Westinghouse Electric Company in Pittsburgh and the Boston-Montana Smelter Company from 1907 to 1915. He was professor of metallurgy in the University of Arizona, and for the past ten years chief chemist in the research department of the Anaconda Works. He is survived by Mrs. Goodrich and by a son, Robert, now a junior at Harvard. Members of the Class will regret that distance has prevented Goodrich from being here with us at reunions. The Secretary had a pleasant meeting with him at Berkeley in 1915.

An interesting letter from Bardwell to Gill reports a tour to Southern California, thence by boat to Panama Canal, to Port-au-Prince, Haiti — a wonderful ten-day trip through the Pacific, a hot time in Panama (alleviated by trade winds), choppy days in the Caribbean, the mixed conditions in Haiti, followed by a return home to Northfield, Minn.

The Secretary and Mrs. Tyler have completed during the summer a third motor tour in western Europe, including this time something of northern France, Belgium, Holland, western Germany and Switzerland as well as, incidentally, Luxembourg.

Whatever communications may have been addressed to the Secretary about recent news of other members of the Class have not overtaken him in Europe, nor have they yet been discovered in excavations of summer mail. — HARRY W. TYLER, *Secretary*, Room 2-261, M. I. T., Cambridge, Mass.

'86

The Class of '86, School of Mechanic Arts, with ladies, held their Forty-First Reunion at the Parker House, August 2. Although they missed the old associations of Young's, which had been their meeting place since graduation, amid the beautiful surroundings of the new hotel and under the cheerful influence of mine host Walker, the

members soon felt at home again and ready for the fun forthcoming.

After disposing of the good things of the banquet table, the room was darkened and moving pictures of the Fortieth Reunion held last year were thrown on the screen by Hiram Percy Maxim. Particularly interested was the Class in the doings up at Mr. and Mrs. Jimmie Ball's place at Still River, where part of the festivities had been held, and much laughter and merriment was forthcoming when the pictures showing all the familiar mannerisms and gestures of the different participants were thrown upon the screen.

At the close, H. P. Benson, with a neat speech, presented to James T. Ball, reunion manager of the Class, a beautiful Swiss watch and chain. Upon the watch were engraved the words "Welder of Class Spirit," in appreciation of the recipient's efforts in bringing the Class together during the period of many years for their class reunions.

Among those present were Ex-Mayor and Mrs. H. P. Benson of Salem; Mr. and Mrs. William H. Dawson, Lynn; Mr. and Mrs. R. H. Sutherland, Lynn; Mr. and Mrs. C. E. Holmes, Lynn; Mr. and Mrs. Charles Grush, Beverly; Frank C. Goddard, Hotel Lenox, Boston; Walter P. Richardson, Salem; Major Frank S. Wilson, Boston; Mr. and Mrs. Hiram Percy Maxim, Hartford, Conn.; Mr. and Mrs. Fred E. Arnold, Waterville, Maine; Mr. and Mrs. Howard G. Noble, Westfield; Mr. and Mrs. Harvey G. Woodward, Birmingham, Ala.; Colonel and Mrs. Edward G. Osgood, Fairlee, Vt.; Mr. and Mrs. James T. Ball, Trinity Court, Boston; Professor W. P. Turner, Purdue University, Lafayette, Ind.; William C. Smith, Boston; Charles H. Herick, Boston; Mr. and Mrs. Fred A. Whitney, Leominster; Norman S. Wooldridge, Pittsburgh, Penna.; Ambrose Walker, Salem; and S. S. Stewart, Schenectady, N. Y. The entire arrangements were in the hands of the Class Treasurer, R. H. Sutherland, and Toastmaster H. P. Benson. — JAMES T. BALL, *Secretary Pro Tem.*, City Hall Annex, Boston, Mass.

'88

Walter K. Shaw and Walter R. Shaw, Jr., raced Bar Harbor thirty-one footers in Marblehead and Newport races the past summer. — William H. Blood, Jr., spent most of the summer in California on important work for Stone and Webster, Inc. — James A. Handy is now at 49 Emerson Avenue, New Rochelle, N. Y. — Henry C. Dittrich is located in Portland, Ore., at 1219 East 30th Street. — Sanford E. Thompson had an interesting article in the June number of *The American Federalist* entitled, "Measuring Labor's Productivity." — WILLIAM G. SNOW, *Secretary*, 38 Chauncy Street, Boston, Mass.

'90

June 10 and 11 was a grand time for the Technology Alumni and also the Class of '90, and all of you chaps who failed to connect missed a grand treat as well as a chance to meet classmates again and renew old friendships even if most of us were grayer on top, or have no top at all. As a result of the alumni notices, to say nothing of the one that your Secretary forced through the mail, eleven of our bunch showed up with

no regrets but just sorrow for the rest of you who failed to connect. The fortunate gathering was as follows: Blood, Crane, Gilmore, Lenfest, Loring, Nims, Rice, Rogers, Slater, Tilson, Tuttle and Eisendrath. Mrs. Lenfest and Mrs. Rice were also with us.

Just one word to the rest of you. Aside from the above, only about six of you even took the trouble to drop a line to your Secretary to say that you were sorry you could not come or to say anything else. Come across now, boys, and the next time you hear from headquarters drop a line. Even now your Secretary will be pleased to hear from you.

Commander Ernest H. Brownell has been transferred from the U. S. Naval War College at Newport, R. I., to the Charlestown Navy Yard. Your Secretary hopes to get in touch with him before long. — Winthrop T. Hodges is living at 52 Main Street, Concord. — Professor Harry M. Goodwin has been chosen librarian of the American Academy of Arts and Science. This summer Harry, with Mrs. Goodwin and his son, stayed at The J. Y. Ranch, Jackson's Hole, Teton County, Wyo. From what Harry wrote I guess they spent most of the time in the saddle, camping out in the wilderness and having a general kid time of it with an occasional rubber of bridge between the acts.

Frank McDonald last year took a sixty-day trip from his home at Morgan, Allegheny County, Penna., through New England, but did not hit the Hub so we missed seeing him. Come nearer next time, Frank. He is blessed with three granddaughters and one grandson who have been visiting him the past summer. — Dr. Franklin W. White, at the meeting in Washington of the American Medical Association in May, read a paper entitled "The Medical Care of Duodenal Ulcer." He also had to go to Atlantic City. Mrs. White and daughter were in Europe while Frank was tied up at home. — We regret to announce the death of our classmate, Hiram E. Bladwin, who passed away at his home in Cleveland, April 16.

At the time of the Alumni Reunion in New York, George A. Packard was on a trip to Red Lake, Ont., and from there was going to the State of Washington to do some mining investigations in the Cascades. — A letter from Joseph B. Baker tells that he has been living for the past three years at Mount Vision Lodge, Denville, N. J. Since the death of Mrs. Baker, four years ago, Joe has been interested in this bungalow property where he has been having paying guests and at the same time has been busy at electrical and mechanical experimental work. From the photographs received it must be a delightful location and a good place for work and study.

Jim Clark with his family sailed in June for a three months' trip to Europe. A card was received from him written the last of August. They had been up through Italy, Switzerland and France, and were then motoring through England and Scotland, and having a grand time. — Mr. and Mrs. John L. Batchelder sailed for Europe in June where they were to join their daughter and her husband. John and your Secretary are ready to tackle any of you chaps at golf any time you will drop into this part of the universe.

Darragh deLancey sailed for Europe on June 18, with his mentor, Professor Eberhard. Darragh is back now at his home in Water-

1890 Continued

bury, Conn. He has been doing memorial sculpture work and some of the photographs show work that is of high standard and also that the artist loves his work. Prints of some of his work have been copyrighted. A recent newspaper contained the following article: "An elaborate marble monument has arrived in Great Barrington to be placed in memory of Miss Harriet deLancey, who died while a student at Smith College. The monument was carved by the father of the girl, Darragh deLancey of Waterbury, Conn., a former Great Barrington business man who took a special three-year course at Yale University in order that he might do the work." His son, Darragh deLancey, Jr., of Princeton, is the intercollegiate winner of this year's current events contest sponsored by the *New York Times*. He will receive five hundred dollars.

Fred W. Swanton has taken his new residence out at Chevy Chase, D. C. He is still busy in the patent office. — Professor W. Z. Ripley won the five hundred dollar prize of the Harmon Foundation for his "Main Street to Wall Street," judged as the most distinctive contribution of the year to social or industrial welfare in the United States. Billy, in June, was chosen Chairman of the Joint Boards of Sanitary Control of New England. It is a work to do away with the sweatshop conditions in the women's garment industry. — Harry L. Noyes, with Mrs. Noyes, motored from Buffalo to Cape Cod for the summer. Your Secretary tried to get him to hit Lexington for golf but no luck so no one got licked. — G. L. GILMORE, *Secretary*, 57 Hancock Street, Lexington, Mass.

'92

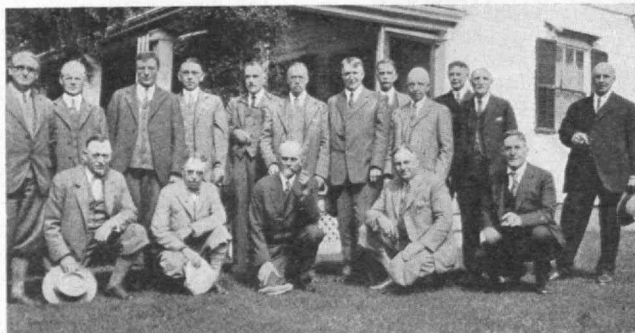
The Thirty-Fifth Reunion of the Class was held at the house of the President, William R. Kales, at Harwichport on June 3, 4 and 5. A report of the doings at that Reunion has been mailed to all of the members of the Class, so it would only be repeating to print it in this column. (See the picture on this page.)

One of those who could not attend was Ralph Sweetser and to explain why, I give some extracts from *Iron Age* of June 16: "With an attendance of about 300, including representatives of foundry iron users and blast furnacemen, under the able leadership of the Chairman, Ralph H. Sweetser, assistant to the Vice-President of the American Rolling Mill Company, Columbus, Ohio, many phases of the subject were presented. Chairman Sweetser opened the session with a few remarks to the effect that something is evidently taking place which is causing these complaints. [I gather from the context that the complaints referred to are in regard to the quality of foundry iron deteriorating the last few years.] Blast furnacemen admit, he said, that less coke is being used and that too much scrap makes a poor pig iron. The problem in its broadest sense is too big for any one group of men to solve. The following resolution was passed: Be it resolved that it is the consensus of this assembly that a comparative study of the effects of varying blast furnace operations on the character of the pig iron made

under changing blast furnace conditions and on the castings made therefrom, be conducted under the supervision of the United States Department of Commerce, with an advisory committee consisting of representatives of the national technical associations, such as the American Foundry Association, American Pig Iron Association, A. I. and M. E., and the A. S. T. M."

General Logan Feland has been in the public eye of late as commanding the marine forces in Nicaragua, and an interesting story about his youth appeared recently which tells how he fired, or attempted to fire, his first cannon at the Manlius School in New York, in 1889. He conceived the idea of firing the sunset gun at midnight to provide some excitement. He charged the cannon with four or five pounds of powder — enough to blow the gun to bits — loaded it to the muzzle with cobblestones, saturated a rope with kerosene, inserted the end in the brass cannon, lighted it and ran. At this moment the headmaster, unable to sleep because of the sultry night, happened to look out of his window and saw the fire creeping along the ground. He investigated the phenomenon and put the fire out before it had done any damage. An investigation by the faculty failed to reveal the culprit and it was concluded that the deed had been done by a striking laborer from a nearby quarry. It was not until years later that all the details of Feland's first attempt to fire a cannon were learned. Word comes that he has left Nicaragua, there being no need for further intervention. [See *Trend of Affairs* Section.]

Here is another about Professor Park: "How one of the latest scientific achievements brought about the realization of an early ambition was recently revealed by Professor Charles E. Park, '92, of the Department of Mechanical Engineering. Over forty years ago, while Professor was still regularly attending the Sunday School in Taunton's little red church, the church bell mysteriously cracked. Whether or not activated by a guilty conscience, he resolved that he would some day mend the broken bell. After much waiting his chance came with the discovery of atomic hydrogen welding last winter. A short time ago he returned to the old home town with a truck load of apparatus, took his lead up into the belfry, and presto! In another hour the bell rang again after forty years of silence. The bell which is about the size and shape of the Liberty Bell was cast in 1806 by an apprentice of Paul Revere and is the first bell ever welded." — JOHN W. HALL, *Secretary*, 8 Hillside Street, Roxbury, Mass.



The Thirty-Fifth Reunion group of the Class of 1892

'94

It is good news to '94 men that Norwin Bean has returned from Washington where for a number of years he has been directly connected with the Federal Reserve Banks, to assume the position of treasurer at one of the banks at Manchester, N. H. Bean makes his residence for the present at his summer home at Amherst, N. H., but will doubtless return to his old residence in Manchester with the coming of cold weather. In addition to his association with the bank, there are other business interests which call him back to New Hampshire. John Nowell has resigned as the executive head of the Pacific Coast Telephone Company and is living in San Mateo, Calif. His address is Box 325 in that town. It was reported to the Secretary that he was coming East to live and perhaps to make it possible for his children to continue their graduate studies at the Institute or elsewhere, but no definite information has been received as to his arrival in the Boston district. Prescott Coolidge still continues as an official of the Pacific Coast Telephone Company. A news dispatch from Pasadena tells of the latest work of Charles G. Abbot, who has developed a new instrument which he calls a radiometer for the study of heat generated by the stars. It is claimed that this radiometer will measure the heat generated by a lighted match five thousand miles away, and is said to be the most sensitive device ever assembled. Anyone who is familiar with the previous history of Abbot's work in the development of instruments of high sensitivity can easily believe that this is possible. He has been working for the past summer at the summit of Mount Wilson at the Carnegie Observatory. The Class will learn with great regret of the death of Walter Bancroft Nichols which occurred on Tuesday, July 28, following a serious surgical operation which had been performed about two months earlier. Nichols was born in Reading and came to the Institute from Phillips Andover Academy. Here he remained for three years when he went into civil engineering work and never returned to complete his course. For the past few years he has been connected with the Reading Rubber Manufacturing Company. In May, 1897, he married Miss Grace C. Staniford, of Reading, who survives him, as does also a son and a granddaughter. Always very quiet in his general demeanor and somewhat handicapped by lameness, Nichols has never taken a prominent part in the affairs of the Class, but will be remembered by many who will regret his passing. — S. C. Prescott, *Secretary*, Room 10-405, M. I. T., Cambridge, Mass.

'95

It is a pleasant feeling to throw off the cares and anxieties of a Class Secretary during the summer months, and journey in quest of recreation and the thrill of meeting a few of the '95 men located on the Pacific Coast. To return and assume the responsibility of reporting for the Class this coming year is another feeling, quite different. Much of the success of real class news depends upon your interest and activity.

1895 Continued

Your Secretary traveled 14,000 miles this summer by rail, auto, boat, and on foot through the Canadian Rockies to the Pacific Coast, thence by boat to Alaska, returning to Vancouver, B. C., Victoria, Seattle, Portland, and San Francisco. From San Francisco the return trip included Santa Barbara, Los Angeles and its surroundings, San Diego and Upper Mexico, the Grand Canyon of Arizona, Colorado Springs, Denver, Chicago, Pittsburgh to Boston. It was a wonderful trip, chosen at a time to avoid the distressing atmosphere of a later season occasioned by the heavy forest fires in the Northwest, providing an exceptional view of the beautiful scenes in the Rockies, Alaska, especially at Mount Rainier. The Yosemite Valley, including the great redwoods of California, were wonderful, but the greatest pleasure was in meeting a few '95 men who happened to live along the route.

In Seattle I saw Arthur G. Bixby who is advertising manager of the *Seattle Times*. Bixby holds his years well and looks prosperous. Distance has somewhat weaned him from Class interests, but he promises to do better in the future. Commander Kotzschmar, Jr., of the U. S. Coast Guard was also in Seattle, and a delightful afternoon was spent in reminiscing. Kotch has grown wonderfully handsome and portly, and carries well the dignity of his office. His Alaskan experience and stories were worth the trip to the Coast.

In Portland I missed Elmer L. Wengren and Dr. George S. Whiteside. In San Francisco Henry S. Dutton was on hand and is still engaged in Civil Engineering. Frank S. V. Sias has left the city leaving no address. I called on Walter D. Bliss, but I always found him out. Bliss must be very busy during the summer months. At Santa Barbara I could not locate Allen P. Brown on account of the crowded condition of the city, as the American Legion were in convention at the time. In Los Angeles I had better luck. I found Milton L. Fish, who is still somewhat bald but handsome. Fish demonstrated the great good will of the West by insisting on buying some of every kind of fruit grown in California, and having me sample every purchase. He took me to a Technology luncheon at the University Club. John E. Longren was as jovial as ever and is continuing his efforts to establish a wire plant on the Pacific Coast. Alfred E. Zapf at Orange gave me the treat of my life. Together we toured the whole of Southern California into Mexico, and a better scout cannot be found. When you are traveling look up your '95 friends. You will enjoy them and they will enjoy you.

During the coming year I will afflict you with a few personal experiences of this trip, unless you come to my relief. The class dinner held at New York during the Convention of the Technology Clubs Associated should have been reported in this issue. For some reason the Class had such a strenuous time during the Convention that the reporter failed to mail his dope.

Edwin C. Alden of Hartford, Conn., was elected President of the Hartford Chapter of the National Association of Cost Accountants for the ensuing year. — Frederick Augustus Hannah was married to Anne Ruth Judkins on Saturday, July 30. The Class unanimously congratulates him, for it is never too late to mend one's ways. Frederick and his wife are

at home at 844 Beacon Street, Boston. — LUTHER K. YODER, *Secretary*, Chandler Machine Company, Ayer, Mass.

'96 Our globe trotter, M. L. Fuller, returned in September from a seven months' trip around the world with Mrs.

Fuller. A card from him last April stated that they were then in West Australia and their wanderings had taken them down through the islands of the South Pacific, over New Zealand's mountains and lakes and among its geysers and caves, through Tasmania and across the Australian desert. They were then about to sail for South Africa where they later made an inland trip of 2000 miles and return, visiting Victoria Falls and later going to Kimberley where they saw diamonds recovered by the peck at the De Beers mines, Bulawayo, with the tomb of Cecil Rhodes at World's View, and nearby ruins of a prehistoric civilization, Johannesburg and the gold mines of the Rand. Their return to America was via the east coast of Africa, Suez and London. From Cape Town to Antwerp they took a 10,000-ton Dutch freighter, making a trip of seventy-three days, broken, however, by stops of from one to eight days at almost every port from Cape Town to Port Said, which gave them opportunities of seeing much of the natives of Portuguese East Africa and the former German possessions as well as those of British territory. The officers spoke English and they had excellent accommodations and splendid food — sort of a family affair without the annoyances of a crowded ship. They partook of a crocodile hunt in Mozambique, but truth compels them to say that all of the seven sighted are still there awaiting the next hunter. The Red Sea used them well compared with other ships at that season, the temperature reaching only 106° while some vessels reported 118°.

Mark Allen returned with his family from his European trip the latter part of the summer, but so far no word has come from them to the Secretary to report what he did or what he saw, but there is no question but that Mark kept his eyes open and did everything there was to do [latest report is that Mark and Mrs. Allen have returned to Egypt]. — After the death of Mrs. Hurd, Ben decided to take his girls to Europe, thus carrying out the plans that had been made before Mrs. Hurd's death. The exact details of the trip are not known, but cards were received by Rockwell from him in France. He planned to be back in time for the opening of school for his children in the fall. George Burgess sailed, on September 13, for Europe, but no information is available regarding the extent of his trip or his plans while abroad.

The Secretary saw Bradley Stoughton at Lehigh University the middle of September, and he reported that he had just returned from a trip to Europe where his family had been touring during the summer. He left his wife and children in Switzerland, but they followed him shortly for the opening of school.

Lebaron Russell, representing his banking firm of E. H. Rollins and Sons in Boston, was a member of the party of investment bankers that left Boston on September 10 in a special car for the Sixteenth Annual Convention of the Investment Bankers Association of

America held at Hotel Olympic, Seattle, September 25 to 30.

Con Young wrote in July that he and Mrs. Young rolled in the drive at East Bay Lodge for a few days in June and found Host Brown feeling chipper and ready for a good season. Buster Crosby and Mrs. Crosby were the same as usual and the four of them motored down to Provincetown one day to see Crosby's daughter. Another day they motored up to Natick. Early in July he attended a clay pigeon shoot of the duPont Gun Club at the country home of Norman P. Rood, '99. Two years ago Con's score secured him a mark of "Low Pass." This year he scored 10-10-13 out of 25 in three squads so he feels there is considerable chance for him to improve before he reaches 100 per cent. Another motor trip carried him along the New Jersey shore. He was a little peeved with Hall for securing a table so far away at the class luncheon in New York that he was unable to see the gay dancing by the young lady and felt that a pair of field glasses would have been very useful. Con planned to be around York Harbor, Maine, during the latter part of August. He said that at the New York meeting John Tilley still had a good flow of useful adjectives not found in the dictionary.

Woodwell was sorry the Reunion was so close to his office that he could not repeat his stunt of flying to the Class luncheon. Ted Jones had to leave the class luncheon before it finished in order to catch a train for northern New York where he is building a summer home and plans to do some amateur gardening. Young said that Joe Clary left early in July with Mrs. Clary and three daughters by motor for Laconia, N. H., to spend a month. Joe's son, who is now at Technology in the Class of 1929, went to the Aberdeen Training Camp but later joined his parents in Laconia and drove the family home at the end of the summer. Young sent a picture of Dr. Burgess inspecting a wireless airplane at College Park, Md., being a plane which was guided exclusively by radio waves. The picture appeared in the *Washington Sunday Post* of July 10 and may have been seen by other classmates. [See Trend of Affairs Section in this issue.]

Jim Haste took a three months' vacation last spring, leaving on March 5 for a trip to Honolulu. He enjoyed it immensely and recommends it to any one desiring a fine trip.

Hultman was reported in *The Review* for July to be away on a Caribbean trip. He has submitted a very snappy, detailed report as follows: "Mrs. Hultman and I started from New York, Monday, February 28, on the Canadian Pacific boat, S. S. *Mont Royal*, for a trip to what is generally called 'The pirates' old hunting ground in the Caribbean Sea.' The only mistake about this statement is the word 'old.' The pirates, I assure you, are neither old nor dead, but are still there waiting for the American tourist.

"Our first port was Bermuda which I will not attempt to describe as apparently everybody who has ever been there has attended to that job. The next stop was Porto Rico. Uncle Sam seems to have the faculty of keeping even the half breeds cleaner than any of the other countries. The people seemed happy and prosperous, but with very little comprehension that they are American citizens. A little more education in the beautiful schools which this government has erected and main-

1896 Continued

tained for them as to what they owe this country and what we have a right to expect from them seems to be necessary for their general good. Next we went to Martinique. Here we saw the first black pirates diving for money. We landed at the ruined town of St. Pierre and after inspecting the ruins we drove over the mountains to Fort de France. The drive over the mountains from St. Pierre was through forests more typically tropical than any I have ever seen. Strange colored flowers and orchids ran riot over trees of great size while the ground growth was of the densest verdure.

"We next went to Barbadoes which seems to be practically all under cultivation. I noticed here particularly the difference in the way the English handle their colonies and the way we are handling Porto Rico. Every native I spoke to, whether of light color or black as the ace of spades, spoke English fairly well and proudly informed me he was a Britisher. Next was the Port of Spain, Trinidad. Here we saw the most beautiful botanical garden of the trip, as well as the most extensive coolie village with most active and virulent smells. The poverty of the great majority of the people in all these places was most noticeable and beggars infest the streets and annoy people with their persistent demands for money. La Guira, the port for the capital of Venezuela, was our next stop. Here we saw our first bull ring but no fight. From here we traveled by rail to Caracas through the mountains for a distance of twenty-three miles, because of the difficulties of the country, to cover the seven miles which separates Caracas from La Guira.

"Next we went to Willemstadt in Curacao. For the first time since leaving home we saw a clean town, and however much the Dutch may deceive the world in the making of their famous cordial, which is apparently not made in Curacao at all, they certainly are entitled to having the cleanest place we saw in the tropics next to our own Canal Zone. Our next stop was at Cartagena which may have been the pirates' rendezvous, but which I think is now close to an artist's heaven. To me this was the most interesting place for masonry ruins, old churches and gay Moorish architecture which we visited. It is amazing to me that more Americans do not visit this port.

"Then we visited the Canal Zone. All I will say about this much described place is that it made me proud to be an American citizen. Then to Kingston, Jamaica. From Kingston we drove across the island to Port Antonio which was far more attractive than Kingston to me. We next went to Port au Prince, Haiti, which was supposed to be in a political upheaval, but do not think they will upheave very much as most of the people we saw were U. S. Marines. I asked one of the young marines if they had much trouble with the natives and he said, 'Hell, no, the gobs from our own warships are a good deal worse.' So that particular revolution did not look like much.

"From Haiti to Havana, which has not yet had time to recover from the cleaning up that General Wood and our American troops gave it. Here I spent two interesting evenings watching the jai-al-lig games. I think this is the most interesting game to watch that I have ever seen. About all the articles I have read about Havana say it is very like Paris.

I have come to the conclusion that the writers of those articles have never visited Paris. Our last stop was Nassau. By this time I may have been fed up with sight seeing and Nassau left me cold and flat with a strong taste of Nantasket at its worst in my mouth. The next and most satisfying sight was the Goddess of Liberty, which always seems to me to be the finest looking girl I have seen in a long time, the few times I have met her when returning from abroad."

Gene is applying his scientific knowledge in a wonderful way as Fire Commissioner. At a test by the pumping engines of the Boston Fire Department at the Custom House tower last spring the department pumped water to a greater height by perhaps 200 feet than it had ever been pumped in New England up to the time of those tests. The Secretary has the results on file for any one who is interested, but briefly, the pressures developed up to 300 pounds which showed measurable pressures of between twenty and thirty pounds at the twenty-fifth floor, about 400 feet above the street. The men all swear by him and say that they now have a real superintendent as Fire Commissioner.

Rockwell made his customary trip to his brother in Harriman, Tenn., for three weeks in September. During the time they motored around to Lookout Mountain and Chattanooga and down into Alabama to Muscle Shoals. The striking feature of the trip was the great improvement in roads due largely to the State gasoline taxes. That section was having a fine cotton crop, not being affected by the Missouri flood. During the summer Rockwell had various golf matches with Joe Driscoll on some of the links around Boston.

Locke made a little trip to Maine during July and in passing through Thomaston on July 16 he called upon R. O. Elliot. Elliot perhaps shows the least change with years of any of the Class, still possessing the same full head of black hair and a fresh youthful face. As President of the Gorges National Bank he is one of the substantial citizens of the place. Further, at Foxcroft, he had the opportunity to look up Walter J. Mayo on July 22. Mayo had not been seen or heard from since the old school days. His face was familiar but the top of his head was bare. He is the same wiry individual that used to play on the football team, and as superintendent of the water works he is a busy man. Formerly he operated a woolen mill at Foxcroft, but this was sold out to the American Woolen Company some time ago. He is especially interested in city and county affairs and is just as keen as ever. Not all of his time has been spent at home as he saw military duty on the Mexican border some years ago and was also an active participant in the World War. This Maine trip by the Secretary was for the purpose of pleasure combined with a study of limestone quarries of Rockland, feldspar mines at Brunswick and slate quarries at Monson. Later, while in New Hampshire in August, the Secretary received a call from Billy Anderson and family who motored over from their summer home at Biddeford Pool. In September the Secretary had his annual job of one week's duty at the Technology Summer Camp, near Dover, N. J., motoring there from Boston via Canada and returning direct in time for the opening of school.

Joe Howe sent on a newspaper notice an-

nouncing that Captain T. W. Bailey of Tulsa, Okla., had been appointed highway engineer of the Corpus Christi division in Texas, to succeed E. N. Gustafson. Bailey's new job was to start on September 15. — Paul Litchfield was recently reelected President of the Goodyear Tire and Rubber Company. There had been dissension in that company about the way operations were carried on. Litchfield's reelection apparently means a triumph for him and his policies. Joe Knight recently announced the removal of his law office to 1002 Paddock Building, 101 Tremont Street, Boston, Mass. Ralph Henry has associated with H. P. Richmond under the firm name of Henry and Richmond to carry on the architectural business of Guy Lowell at 12 West Street, Boston, Mass. This is a well merited recognition of Henry's work. For years he has been the chief mainstay of the old firm.

Dr. Coolidge has now received another honor by the conferring of the honorary degree of Doctor of Science by Union College at Schenectady last June. — Sam Hunt wrote an apologetic letter for his non-appearance at the June dinner and Reunion. He stated that on account of his well-known histrionic ability he had been picked as the leading man in a drama which was sort of an annual affair in Manchester. He had had a wonderful time working in Pennsylvania designing and building power plants and did great stunts bleeding turbines and using powdered fuel, but he was mighty happy to be back in his old home at Manchester, N. H., with his family and with the Public Service Company of New Hampshire again.

Captain Bakenhus, after having finished his extended tour of duty at the Naval War College which lasted one year in excess of the usual term, has been transferred to the headquarters of the Commandant, Third Naval District, South and Whitehall Streets, New York, where his new duty is District Public Works Officer. Coming originally to the Naval War College at Newport for instruction, he made such a fine impression during the year that he spent in class that he was retained there for three years longer on the teaching staff, and the last year he was head of the Logistic Division. This is the first time that he has ever lived in New York and he says that coming in as a farmer or countryman from Rhode Island is a very exhilarating sensation.

Newell, who has been with the U. S. Reclamation Service and has been located at Klamath Falls in Oregon for a long time, says that his location on the Pacific Coast has made it impossible for him to get east as he would like to do and see his classmates personally. About the only man that he has run across for many years is Stratton whom he has seen occasionally in the west. It is almost ten years since Newell has been back East.

Fred Ashley finally reported that he and Mrs. Ashley ultimately landed back in Los Angeles after their trip east a year ago to include the class reunion. — Fred Pratt gets home to Portland, Ore., every once in a while but the nature of his calling as a steamship captain makes him miss a whole lot of contact with old friends. He hopes some time that the trip of his vessel to the east coast may coincide with our class reunion so that he can be with us.

Fred Field, who has been in Montreal for a number of years on the water filtration plant,

1896 Continued

reports that water business is O. K. there but that the program of work is nearing an end so that he hopes that he may get back into the United States before a great while. Russell Porter, who is with the Jones and Lamson Company as scientific expert in Springfield, Vt., organized the Springfield Telescope Makers. Starting originally with a local membership, the organization has enlarged so that it includes members from a considerable distance. At the Second Annual Convention in Springfield, Vt., on July 9, more than half a hundred amateur telescope enthusiasts from as far off as Baltimore and Pittsburgh were assembled. The only requirement for membership is that a member shall have made a telescope of prescribed size.

Walter Pennell was at Technology on April 25 and 27 for the purpose of giving some special lectures in higher mathematics. This was his first visit to Technology since he graduated and he said that he had hardly realized how the school had grown. Pennell was very reticent about himself so that it was almost impossible to extract any information about his doings, but it is known that he is a busy chap and ranks high in the telephone business in St. Louis.

In accordance with a vote of the Class, the Secretary sent a check of \$50 as an annual contribution to Technology Athletics, and a suitable acknowledgment was received from Dr. Rowe as treasurer. Mrs. Palmer renders regular reports of expenditures in connection with her crippled son and gives a favorable announcement of his progress. It seemed wise to divert a part of the contribution to enable the boy to attend a summer camp instead of spending it all on his regular schooling. This diversion of the fund worked out very satisfactorily and there is no question that the improvement made by the boy as a result fully warranted the expenditure.

The last Review appeared too early to give a report of the '96 Reunion in New York in June, which took place in connection with the All Technology Convention, an account of which was given in detail in The July Review. G. C. Hall functioned in a superb manner as Class representative, aided by Flood in Chicago, Wayne in Indianapolis, Pauly in Schenectady and Litchfield in Akron. Considering the conditions, the attendance of '96 was satisfactory and what it lacked in quantity was made up by quality. Charlie Lawrence has kindly submitted the following report of the '96 events:

"Saturday noon, July 11, various class luncheons were held at different points, as suited their purpose. The Class of '96 met at the uptown Hof Brau, 53d Street and Broadway, which was attended by G. C. Hall, J. L. Wayne, Charles E. Trout, John Tilley, T. I. Jones, D. W. Beaman, J. E. Woodwell, Conrad Young and C. E. Lawrence. While the attendance was small, the spirit was great and those of us who had the privilege of being at this gathering enjoyed the occasion exceedingly. It was regretted that Mansfield, who was in New York the night before, and Maclachlan, who was also in New York, could not attend this luncheon.

"Saturday night was a great affair, when a dinner at which at least one thousand were present was held at the Waldorf-Astoria with ladies in attendance. The Class of '96 was well represented by G. C. Hall, J. L. Wayne,

A. D. Maclachlan and Mrs. Maclachlan, Conrad Young, D. W. Beaman and C. E. Lawrence. The writer, while a member of the General Committee in charge of this event, does not hesitate to pronounce it one of the most successful gatherings ever held by Technology, with the most unique features. It is safe to say that those who attended enjoyed far beyond their anticipations every moment of the time they spent in New York and those who were not in attendance and have heard of the doings have many times regretted, with full justification, their failure to attend. It was very delightful to have Mrs. Maclachlan with us as she fitted well into the picture and added greatly to the spirit of the class assemblage on this occasion.

"It was unfortunate that Eddie Mansfield had to return to Boston so soon, which necessitated his non-attendance at his class luncheon and the dinner on Saturday. It was noticed by those who had an eye for such trifles that Wayne has grown no stouter and Lawrence has grown no thinner. They make an excellent team when hobnobbing in public."

A later important event reported by Lawrence was that he had become a grandfather, due to the arrival of Edward Purvis Lawrence in Cambridge on Thursday, August 11. Edward Purvis, who will be a candidate for Institute honors in about twenty years, is the son of Charles K. Lawrence who received his Doctor's degree from Technology last June and whose thesis is on file in the Institute library next to that submitted by his father.

It is with regret that the Secretary reports the death of three classmates. James Eaton died in Sharon, Mass., on December 28, 1926. Although infirm so that he had not been able to take his usual part in things for about two years, he was not ill, so his decease came rather suddenly. Eaton was a special student in our Class, taking mechanic arts to fit himself for instruction along that line. He later served for twenty-seven years at the University of Vermont, where he was successful and happy in teaching shop work, and it is stated that he was one of the finest lecturers that the college ever had. Although a special student at Technology, he was a loyal supporter and he felt that it gave him exactly what he needed at the right time and he always appreciated it. Together with Arthur Ayer, Mr. Eaton started the mechanical laboratories of the University of Vermont on the Technology model and many graduates whom he taught testify to the value of his instruction.

Frank J. Hubbard died on February 23, 1927, at Plainfield, N. J., where he had been a civil engineer for many years. Details are as yet lacking but it is hoped that a proper obituary may be prepared for the next issue of The Review.

A. D. Maclachlan died on September 19, 1927. As the proprietor of a book and stationery store on Clarendon Street, Mac was known to practically every member of the Class. When Technology moved to Cambridge he decided that it would be unwise for him to move his store, much as he would like to maintain his contact with the students. He was one of the loyal members of the Class of '96 who could always be counted upon to turn up at meetings and reunions. He also maintained a keen interest in all Technology affairs. In recent years he became more or less

retired from his book business and devoted his energy largely to real estate. Two or three years ago he developed a tumor on the brain which rendered him subject to sudden attacks calling for hospital treatment, but he bore this affliction cheerfully and remarked that as a result of it he had become acquainted with the insides of almost every hospital around Boston. Finally an operation successfully removed his trouble so that he was practically restored to normal health. The following account is taken from the Boston *Evening Transcript*. Flowers were sent to the funeral in the name of the Class.

"Andrew D. Maclachlan, of 51 Mt. Vernon Street, Melrose, died this morning. He was well known to a great number of Massachusetts Institute of Technology graduates on account of his numerous connections with various organizations affiliated with it. He was born in Newcastle-on-Tyne, England, on August 17, 1866. He was the son of the late Andrew L. Maclachlan and Mary (Dyke) Maclachlan, both natives of Scotland.

"At the age of fourteen, Mr. Maclachlan was brought to this country by his parents, who settled in Melrose. In 1886 Mr. Maclachlan bought a stationery business at 222 Clarendon Street, Boston. In 1905 the business was moved to 502 Boylston Street. Mr. Maclachlan retired from active association with this business in 1924 when the concern was incorporated under the name of A. D. Maclachlan, Inc., with Mr. Maclachlan's two sons acting as managers, Walter L. Maclachlan and Wallace G. Maclachlan.

"In 1895 Mr. Maclachlan married Miss Fannie G. Long of Cambridge. They lived in that city for a short time, later moving to Melrose. Since 1886 Mr. Maclachlan had been actively associated with the Massachusetts Institute of Technology of which he was a graduate. For many years he was Treasurer of the Technology Club of this city and also Treasurer of the M. I. T. Coöperative Society. He served a number of terms as a member of the M. I. T. Council and was prominent in the Alumni Association.

"He is survived by his wife, four sons — Andrew D. Maclachlan, Jr., of Akron, Ohio; Dr. Kenneth L. Maclachlan of Melrose; and Walter and Wallace Maclachlan, both of Melrose — one grandchild, three brothers and four sisters." — CHARLES E. LOCKE, *Secretary*, Room 8-109, M. I. T., Cambridge, Mass. JOHN A. ROCKWELL, *Assistant Secretary*, 24 Garden Street, Cambridge, Mass.

'97 It surely was one grand good time, that Thirtieth Anniversary celebration and Reunion of the Class of '97 held at Boxwood Manor, Old Lyme, Conn., June 2 to 5. The events really began with the luncheon at the Engineers Club, Boston, on Thursday noon, June 2, when some twenty-five fellows got together previous to starting for Old Lyme. A pleasing feature of this luncheon was when Richard A. Hale of Lawrence, Secretary of the Class of '77, who was dining at the club, sent in his card with congratulations to '97 from '77. Mr. Hale later appeared in person and was warmly greeted. On Friday night the Class of '97 returned the courtesy by telegraphing congratulations to '77 from Old Lyme on the occasion of their Fiftieth Anniversary celebration.

1897 Continued

The Boston crowd arrived in good season and condition at Boxwood Manor and were greeted by Ballou, Pugh, Howard, Lockwood, Guthridge, Preston and Shepard, who had arrived earlier in the day. Twenty-five men sat down to dinner Thursday night, and later in the evening Wadleigh and Baker put in appearance. Those making the trip from Boston were A. W. Jackson, H. D. Jackson, Russell, Humphreys, Vinal, Currier, Worcester, Collins, Gilmore, Mansfield, Lunt, Clark, Carty, Hubbard, Hopkins, and Alden. Friday and Saturday brought additional arrivals in the persons of Spear, Breed, Howes, Ilsley, LeBaron, Weymouth, Joseph Bancroft, Binley, Burdick, Loomis, Olin, Taylor, Noble, Moran, Jennings and Proctor Dougherty. The latter had some difficulty in getting away from his job of running the District of Columbia, but finally persuaded President Coolidge to assume the responsibility for two days. Judging from some of the photographs that Proctor displayed, his job of Lord High Executioner, beg pardon, we mean Commissioner, of the District of Columbia must be a very attractive one.

We have often heard the expression "Hamlet with Hamlet left out," but we never realized its full meaning until we reached Old Lyme and learned that Charley Bradlee was detained at home with a lame back, and that he might not be able to make the Reunion. However, greatly to the joy of every one, Charley came down on Saturday afternoon, and he was given a rousing welcome. Bradlee must be careful hereafter how he goes to the ice chest for anything as strong as butter, particularly the week before a class reunion.

Letters of greeting and regret were received from Swan, Tewksbury, Eames, Bragg, Billy Sawtelle and duPont, some of whom were detained from coming by illness in the family and some by business matters. Telegrams came from Hawkins, McCarthy and Estabrook. Wilfred Bancroft called up by phone on Saturday night; he was prevented from coming by the illness of his son. A very entertaining feature of the Reunion was the presence of three sons of '97 men, Ballou, Preston and Howard, all of whom contributed much to the festivities.

Friday morning the Golf Handicap Committee went into executive session and finally with the aid of least squares, differential equations, the theory of relativity and an entire lack of the proper fitness of things evolved a handicap list which looked more like the results of a candle pin bowling score than a golf handicap. The list and not the abilities of the players was the cause of the winning players. (Note that the writer of this article did not play golf so there is no malice in the foregoing statement.) Tennis and golf were enjoyed Friday, the weather being ideal. The nights were cool, very cool, and blankets were at a premium, the only safe way of keeping one being to take it to bed and hang on to it. Collins offered to swap a bathing suit for a fur coat, mittens or what have you, but found no takers.

Friday afternoon the fellows began to liven up and feel real peppy when Ethan Howard brought out some photographs of his grandchildren — just think of it! Instantly the boys seemed to age twenty years, and one would have thought that Boxwood Manor was a home for aged men. Just at this mo-

ment Charley Breed piped up: "You ought to come out to my house and see my six months old baby." Never were words more welcome, and the fellows felt rejuvenated once more.

Friday night a whist tournament was held, somewhat progressive and considerably retrogressive. Noble and Collins, who were paired, each vowed, after the scores were computed, to purchase a book of instructions on how to play the game so as not to embarrass each other at the Thirty-Fifth Reunion. There were many others who might well do the same.

A ball game was played on Saturday afternoon. Several big league scouts were noticed on the side lines, and when one of them was asked if he observed any promising material he replied that he did, but that he doubted if his team owners, even with unlimited funds at their disposal, could afford to pay the amounts commensurable with the abilities of some of the players. Even the bovine spectators forgot to chew their cuds in their amazement and admiration. Several phenomenal plays were featured, notably the mixup of Worcester, catcher, and Howard Junior, base-runner, at the home plate. The tackle, for such it really was, partook more of the nature of football than of baseball, but when we recall that Worcester was the star center of Technology's Varsity Football Team in the old days, this fact is not to be wondered at; and as in those days, Worcester got his man.

It was planned to have a 100-yard dash as one of the athletic events, particularly as Pugh, '97's star sprinter, was on hand and in the pink of condition. However, on looking over the other possible contestants and realizing that only a Charley Paddock or a Flash Borah could hope to compete successfully with our own Pugh, the event was called off.

Saturday evening immediately following dinner the class meeting was held. The Secretary read the names of those members of the Class who had died since graduation. There were sixty-five names, and all present stood a full minute in silent tribute to those who thirty years ago were looking forward to the future with enthusiasm and hope. Dougherty read the letters and telegrams that had been received. It was voted to continue the yearly contribution of fifty dollars to the Alumni Athletic Fund, and it was also voted that the annual assessment be raised to two dollars, the additional dollar to be applied towards this amount. Any surplus was to be expended at the discretion of the Executive Committee. A plea was made for more coöperation in the matter of supplying news items for The Review, and responsibility for such items for the coming year was placed in the hands of four men, Loomis, Weymouth, Breed and Wadleigh.

Prizes of thermos bottles were awarded in the golf tournaments as follows: Regular tournament — first, Vinal; second, Ballou, Jr.; Kickers' tournament (each man choosing his own handicap) — first, Currier; second, Hopkins and Howard tied; fourth, Lockwood; fifth, Mansfield.

It was originally planned to award prizes for tennis, but old age and arterio-sclerosis having dimmed (note the "i," not the "a") the enthusiasm of the players, these prizes were given in the Kickers' tournament. Allan Jackson was much disgusted at this action of the committee, as he still considers himself a suitable companion for Helen Wills in a

doubles match (Helen doesn't know this). However, Jackson was not in his usual good form as it was, as he was suffering from frost-bite, acquired the previous night, when someone, probably Humphreys, stole his blanket. Under the circumstances the committee did not deem it advisable to permit him to indulge in such strenuous exercise as tennis.

A vote of thanks was given to the members of the Boston committee who had made all plans for the Reunion. The following were named to serve as Executive Committee for the next five years: Bradlee, Worcester, Hubbard, Breed, LeBaron, Vinal and Hopkins. Thanks were also voted to those members who had by voluntary subscription to a special fund made possible the financing of the Thirtieth Reunion at a relatively low cost to those participating. The original class book and constitution with some 330 signatures was exhibited, and fellows greatly enjoyed looking over their signatures written in the freshman year when their names on a scrap of paper did not carry the meaning or value that they do now. And there also were the names of those dear old fellows who had gone "over the range."

After the meeting the men were given a wonderful demonstration by John B. Taylor of the propagation of sound along a beam of light. Taylor, who is with the General Electric Company, had brought down from Pittsfield an elaborate set of apparatus by means of which the vibrations from a phonograph record played without sound at the far end of the concert hall were first transformed electrically into light waves, these light waves transmitted a hundred feet or more across the room, again reverted to electrical waves which were in turn passed into a radio receiving outfit from which issued perfect sound waves as recorded on the phonograph record. The results were marvelous, and the feature was greatly enjoyed by all present. It surely was a great stunt and the efforts of Taylor were much applauded.

Sunday forenoon was spent in social converse, and after dinner the fellows took their several ways homeward, each vowing to come to the Thirty-Fifth Reunion wherever held. Just a word concerning Old Lyme and Boxwood Manor. The town is delightful with its old colonial houses, its broad streets and wide lawns shaded by over-arching elm trees, its two peaceful churches, and even the ever-present A. & P. store had a white front in keeping with the rest of the buildings. And Boxwood Manor with its flower garden! Who having once seen it and walked down the forget-me-not bordered paths can ever forget it! Hundreds of feet of old-time gardens with the flowers of our grandmothers, ablaze with color and redolent with fragrance, made a scene never to be forgotten. Service and table at the Manor were all that could be desired. Yes, the Reunion was one grand good time. — JOHN A. COLLINS, JR., *Secretary*, 20 Quincy Street, Lawrence, Mass. CHARLES W. BRADLEE, *Acting Secretary*, 261 Franklin Street, Boston, Mass.

'98 Next June will bring the Thirtieth Anniversary of the Class of '98 and all should lay their plans with that in view. The celebration will be in charge of the New

1898 Continued

York contingent of the Class and we can be sure that they will arrange something that will be worth having. All suggestions concerning the Reunion should be sent to Lester D. Gardner, 251 West 101st Street, New York.

George O. Haskell as owner of the Coral Gables Ice Company is manufacturing ice in Florida. He is also President of the Coral Gables Chamber of Commerce and Treasurer of St. Stephens Episcopal Church at Coconut Grove. — George B. Pillsbury is a member of the Joint Board of Engineers on the St. Lawrence waterway improvement and has been in charge of the U. S. lake survey.

Seth K. Humphrey has just returned from a seven and one-half months trip of 5,200 miles through the interior of Africa. His brief letters have been entertaining and indicated some exciting and mighty unpleasant experiences. We hope he writes a book about it and if it is equal to his recent book, "Loafing Through the Pacific," it will be worth reading. Following is a part of one of his letters, sent from Kampala, Uganda, East Africa: "I believe I dropped you a line from the boat going down the Upper Congo. Since then I have trekked north and east about twelve hundred miles, across Lake Tanganika, then up to this place on the north shore. Getting to the south end of the lake — to Mwanza — gave me the 200-mile motor ride of my life. We waited a month for the road to dry up and then it was terrible. All the way through absolutely black country — and about half way we had to strip a gear. Nothing to it but camp on the edge of a swamp three nights while another truck came seventy-five miles to tow us. Only two niggers and hyenas, both harmless, and we had our own grub, beds, and made a tent of the truck's tarpaulin. All snug and comfortable. You can imagine that road when we had seventy niggers to pull us through ten miles — out of holes, through swamps and rivers. Five days doing 220 miles. It has been very interesting but a hard trip. I am about ready to call it a day and start for home. I begin a sixteen days journey tomorrow from here to Durban, then after a sojourn there I expect to sail for home."

A card has just been received from Henry P. Richmond announcing the firm of Henry and Richmond, Architects, successors to Guy Lowell. — S. Warren Ritchie has spent the greater part of his life since graduation in pioneer engineering work in the American tropics with some exploration, and he admits that it has been fairly full of adventure. One of his hobbies is "Maya antiquities." — Horace R. Thayer writes from Scranton, Penna., where he is of the civil engineering department of the International Correspondence Schools. He has two boys who have made remarkable scholarship records at the University of Pittsburgh; one is now a minister in the Presbyterian Church, and the other is still a senior in college. His father is a judge of the Massachusetts Courts and, as Thayer says, is still active on the bench.

Francis P. Bergen, from whom we have not heard for a very long time, sends us word from Westfield, N. J., where it appears that he is President of the Vulcan Asbestos Manufacturing Company and owner of the Vulcan Chemical Manufacturing Company. — Raymond M. Hughes is entering upon his new duties as President of Iowa State College. Last June when still President of the Miami

University he was, without his knowledge, voted an honorary LL.D. by the faculty and trustees of that university as a sort of final expression of esteem. — Elliott Barker is a member of the Massachusetts State Legislature from the 28th Middlesex District.

Clara Emerette Gary, M.D., received an honorary Doctor of Science from the University of Vermont last June. It was given in the following words: "Doctor of Science: Clara Emerette Gary, born in Middlesex and bred at Montpelier, trained in medicine at Boston University; first daughter of Vermont to enter the medical profession, senior in service among the still active women practitioners of Boston; pioneer in the teaching of physiotherapy and in the application of X-rays in diagnosis and surgery; bountiful of her service in the World War; a 'woman leader of the deed,' original and resourceful in research, skillful and sympathetic in practice, high-hearted and large minded in social activities and relations."

We have at hand a copy of the September, 1926, number of the *Adult Bible Class Magazine* containing an article by Robert Starr Allyn, "To Drill or Not to Drill," and it is so good that we reprint the brief summary: "Life always has been and must be a conflict. Progress and development come only through struggle. History shows man always a fighting animal with a but slowly developing spiritual side noticeable at times. It is a natural thing to want and work for peace and no one wishes it any more than those who have passed through the horrors of war, but let us not be deceived. It is criminal to say because American manhood has always been ready and willing to die for its principles, therefore he needs no preparation. We never shall know how many thousands of lives were sacrificed on the altar of unpreparedness. Is it fair to send ignorant men under untrained officers as was done in 1861 and 1918?" — A. A. BLANCHARD, *Secretary*, Room 4-160, M. I. T., Cambridge, Mass.

'00 The summer months have been very unproductive of Class news. Not a single 1900 man has crossed our horizon, and only a few letters brought news for this column. Late in May, I made a flying trip to some seven or eight of the prominent technical schools for the purpose of studying their hydraulic laboratories. The trip carried me as far as Iowa City, but no opportunity to visit 1900 presented itself.

The editorial columns of the *Boston Traveler* of July 9 carried four articles written by prominent citizens on the subject of "What Can Be Done to Abate the Smoke Nuisance in Boston?" Three of the four contributors came from the Class — Bowditch, Edson and Silverman. Inasmuch as the fourth writer was a Technology professor, we may say that the Institute's representation was 100 per cent perfect. Bowditch advocated centralized heating plants from the standpoint of economy. Edson, as Chief of the Smoke Abatement Division of the State Public Utilities, quoted statistics relating to the progress which has been made in smoke abatement since 1910. Silverman described the work accomplished on the locomotives and in the power plants of the Boston and Maine Railroad. Silverman is assistant to the Presi-

dent of that road. That three '00 men should have been selected to write the editorials for that day reflects much credit upon the Class.

From Zeigler has come a clipping referring to the death of George O. Schneller, on June 10, at his home in New Haven. This is sad news. We have not seen or been in touch with him since the old days, but his cheery, smiling countenance and his frank, winsome manner have remained a memory with us these many years. Schneller was President of the O. & C. Company of Ansonia, with which he has been associated since graduation. He leaves a wife and two children.

Reardon and Bill Stone took upon themselves the responsibility of representing the Class at the big New York Reunion in June. We are deeply grateful to them as otherwise that Class representation would have been a big zero. A letter from Reardon states that he ran afoul of Shorty on the S. S. *Peter Stuyvesant* during the evening trip up the Hudson, and that they clung together for mutual entertainment and safety. At the Saturday evening banquet, Reardon found himself alone and was forced to break bread with '96. The New York 1900 aggregation failed to come through. What was the matter? Reardon continues to be associated with the Underwriters' Laboratories at Bridgeport, Conn., and Stone had charge of all the road building for Nassau County, New York.

Bowditch wrote in June that Neall was taking his family abroad this summer and was planning to leave the boys to spend the winter at a Swiss school. — GEORGE E. RUSSELL, *Secretary*, Room 1-272, M. I. T., Cambridge, Mass.

'01 With the approach of fall your Secretary naturally begins to think of the happy days to come when he will once more resume contact with the members of the Class. During the summer he has heard from a portion of the Class — a smaller portion than he could wish — but the news received has all been good and encouraging. Recently, however, the Editors of *The Review* have sent out a circular notice to class secretaries for the first time giving instructions for the preparation of copy. I do not mean by this that they have not exercised a rigorous censorship over material sent in, for the complaints which I have received from other class secretaries anent the deletion of choice bits of Rabelaisian comment assures me that such has been the fact. But as I glance over the mandates of *The Review* Editors, I find that "Poetry, original or quoted, cannot be printed." No more can I approach you liting in lyric prose. Babbitt rules supreme and I presume it is but one step to requiring that form of simplified spelling which is the apotheosis of bucolic illiteracy. Capital letters, quotation marks, exclamation points, italics, slang and short paragraphs are likewise interdicted, and last and overwhelming blow — lengthy, verbose, introductions and conclusions are strictly forbidden. And then, after a blast of this sort, they sign themselves "Cordially." However, with that meek acquiescence to the dicta of those in authority which, among ourselves, was the sole reason that I received a degree from the Institute, I acknowledge their right thus to impose conditions and I bow to them. Henceforth I shall

1901 Continued

approach you in measured words, joyless, restrained, gray. Only facts will be permitted.

How I am going to handle Class news relating to Freddie Boyd and some of my other friends on this basis, I cannot say as yet. The technique must be developed.

Ted—pardon me—Edward Davis of Waterbury, Conn., has just written to say that he has met Joseph Philbrick. Joseph, of whom we have lost track since the days of graduation, is now in Washington, D. C., connected with the firm of Ernst and Ernst. To those of us who remember Joseph in the happy—pardon me, delete happy—undergraduate days, his present affiliations—pardon me—job, will seem most appropriate. Joseph was ever an earnest young man as all good chemists are—and his immediate severance from further association with his Class when freed from official constraint, has been an evidence of this dominant quality of his rugged personality. Incidentally, Joseph, who was not small in those days when we knew him, has grown in at least three dimensions—I would go further but extra-dimensional space falls alike in the realms of pure mathematics and impure poetry—at least so Edward Davis says, and is now tall and broad—but never thick, Joe, never thick—let us say deep. I realize that I am taking a chance, but Washington is remote from Boston and as Joseph has not visited the latter city in nearly thirty years, there is an element of safety.

Will Allen McDaniel, if his eye fall upon this, look up Ernst and Ernst and our earnest Joseph, lure him from his retreat and affiliate him with the Washington Club?

From several sources including Jack himself—pardon me—John—I learned that A. John Eveland has terminated—sorry, ended his connection with the Sierra Mining Company and is now with Patrick McGowan in New York. Whether this is a business or a sporting association I do not know. Living as I do, a life of cloistered seclusion, I am less familiar with the masters of industry than the more fortunate members of the Class whose lives have fallen in pleasanter places, but the patronymic of Jack's—pardon me, John's—employer, smacks to my ear more of the prize ring than what I may be privileged to term the busy marts of trade. Further, John's mining experience in Mexico as conveyed to me in several lurid recitals would fit him far better, I should imagine, for the former than the latter vocation. Mining as it is now conducted in Mexico would seem to be entirely a sporting proposition, although I read from time to time serious articles by Technology graduates who explain to us that we misjudge the gentle Mexican and that his one thought in life is not to take our money or other valuable commodities but to do us good. And he does. It can well be; the aforesaid life of cloistered seclusion renders me unfitted to pass upon questions of national or international import.

Turning for a moment to purely class matters, I would urge those of you who have received the letter and other communications sent out this summer to send in to me as soon as you may, a brief statement of your present address and activities, domestic and otherwise. Delicacy forbids my mentioning a more tangible proof of loyalty to the Class, but those of you who have not will understand. It will soon be time for us to think of a class

reunion and it is of the utmost importance that it should be possible for your Secretary to reach you through the mail with some degree of certainty. It is understood, of course, that Bill—pardon me, William—LeBosquet is not included in the above appeal. I realize, after years of fruitless endeavor, that it will never be possible for us to catch up with him in the flesh and I confess to a profound scepticism as to extra-physical contacts after he has passed across his last great divide. Please let me hear from you. Any word will be welcome; full compliance with the several requests from the Secretary's office, an event.—ALLAN WINTER ROWE, Secretary, 4 Newbury Street, Boston, Mass. V. F. HOLMES, Assistant Secretary, 131 State Street, Boston, Mass.

'02

The Class Notes for the July number of The Review had to be in before the date of our Reunion; hence no account of that important event was included in the last issue.

The Twenty-Five-Year Reunion of the Class, held from June 16 to 19, passed into history with considerable éclat. Events were opened with a visit to the Institute, with the Secretary maintaining headquarters at Walker Memorial and Doc Williams conducting a party of classmates through the building. This was followed by a luncheon, to which those members of the Faculty who have survived our student years were invited, and in spite of the vacation time, some twenty of them were able to attend. Those classmates and guests who attended this opening feature of the Reunion, and also the main affair at Groton, were: Secretary and Mrs. Hunter; Les Millar and Miss Elizabeth; Grant Taylor; Edmund Kimball; Dana and Mrs. Fisher; Harry Pond; Ken Lockett; Luke and Mrs. Collins; Ike and Mrs. Reynolds; Art Nash and his wife; Wilbur and Mrs. Vatter with Miss Barbara; Alfred and Mrs. Friend; Lewis Moore; Arthur Sawyer; Fred and Mrs. Fowler; Eliot Richie; and Charlie Mixer.

The following classmates were on hand for Thursday morning, but were unable to go to Groton: Doc and Mrs. Williams with Seaton; Miss Beckler and Miss Bates; Mrs. Sweetser; Jessie Eames; Roger Greely; and Jimmie Smith.

At the luncheon the Class Secretary presided in the absence of President Nickerson, who was delayed by urgent business. Professor Tyler spoke briefly on behalf of the Faculty guests and former Dean Burton told of the work being done on the Dormitory Fund. Each former professor arose in turn to receive the greetings of the classmates, and each classmate in turn responded to his name and told of his present whereabouts. After luncheon the party proceeded, mostly by auto, to the Griswold at Groton, Conn., where the main features of the Reunion were staged. At the Griswold the following classmates from New York and elsewhere were assembled: Ned and Mrs. Baker with Constance and Buster; Bill and Mrs. Kellogg; Jack and Mrs. Fruit with Miss Esther; Cecil Annett; Roland Pendergast; Burt and Mrs. Hathaway; Bill and Mrs. Bassett; Monte and Mrs. Montgomery; Clyde Place and Mrs. Place with Miss Perry; Harold and Mrs. Everett with Misses Elizabeth and Ruth; Roy and Mrs.

Brainard; Joe and Mrs. Ballard with Misses Mary and Margaret; Roy and Mrs. Kern; Jimmie and Mrs. Brown; Robbie and Mrs. Robinson.

Long before the classmates had finished dinner, Steve Gardner had the sturdy Diesel boat *Nelseco II* waiting at the pier to take the party for a sunset trip on the Sound. On the boat were Mrs. Gardner and Miss Florence, and Chick and Mrs. Starr. A pleasant evening was enjoyed going up the Sound nearly to Watch Hill and back. The *Nelseco II* was a fine boat, in apple pie order, and Gardner had provided everything that the inner man or woman could desire. On the return trip by moonlight the party gathered on the rear deck for a song fest with Clyde Place leading strong. Returning to the hotel, the following arrivals were found: Mr. and Mrs. Pember, Murray Walker and Normie Borden with his son Barry.

Friday was another fine day. Quite a number went fishing in the motor boat *Intrepid*, and Florence Gardner landed such a large fish that everyone wanted to go on the Saturday trip. Tennis and golf were also in order. During the day the following arrived: Al and Mrs. Lindsly; Tommie Foote; Charley Tolman; Pete Currey with his little daughter Carolyn; Charlie and Mrs. Stover with their sons Clarke and Roger; Edwin Nelson; Ed Pollard; Claude Patch; Adrian Sawyer; Arthur Nickerson; Lester Hammond; Harry Manley; Walter and Mrs. Fitch; Walter Farmer; Elmer Hervey; Thayer and Mrs. Gates; Bobbie Pope; Deane and Mrs. Avery; and George and Mrs. Seabury.

After lunch Clyde Place unlimbered his movie camera and risked several miles of film on the assembly. Several went sailing on the Sound, tennis preliminaries were staged, and the golfers got acquainted with the links. In the evening a bridge party was staged in the sun parlor.

Saturday was another perfect day. The fishing boat was well filled and another party went for a sail with a spanking breeze. Tennis finals were played with Nash again winning the Class championship, and teamed up with Miss Perry Place, he was the victor in the mixed doubles. Ned Baker was the runner-up in the singles; and he and Mrs. Baker in the doubles.

The day saw further additions: Joe and Mrs. Philbrick; Dunc Franklin; Bobbie and Mrs. Lowe; Harry Stimson; Arthur Katzenmeier. The golf match was played off Saturday morning, Reynolds winning the championship and Bill Kellogg getting the "kicker's handicap." The ladies' prize went to Mrs. Place. In the afternoon a ball game was staged between the Boston team—captained by Dan Patch—and the rest of the world—captained by Jack Fruit. The decision of five years ago when Boston lorded it over the field was reversed, and the "beaneaters" were properly humbled. Pete Curry umpired, and after the game the real baseball fans proved they had not had enough by continuing with a game of scrub, in which some of the sons took part. That we are not losing our pep was shown when Tommie Foote knocked the cover off the ball, and Bobbie Pope cracked a bat that had done duty at several reunions. In the evening the classmates assembled in the sun room for the official class dinner. Between courses President

1902 Continued

Nickerson led the Class Secretary to the ladies' table in the main dining-room and presented Mrs. Hunter with a silver coffee service as a gift from the classmates. He then conducted the Secretary back to the dinner and proceeded to take his breath away by presenting him with a Chrysler sedan on behalf of the assembled classmates. Fortunately, he did not call for an immediate response.

At the business session held after the dinner, it was voted after due discussion, not to publish a class book, but to get out a brief directory in the form of a special issue of the class paper, "The Retort," which will contain the addresses and brief vital statistics about the classmates. At the election of officers Place was chosen President; Millar of Chicago, Fruit of New York, and Richie of Boston, Vice-Presidents; the Secretary was reelected for a five-year term; and Bert Philbrick was reelected Assistant Secretary. Following dinner the classmates joined the ladies for a dance in the hotel ballroom, with Jack Fruit as floor marshal. This was much enjoyed until midnight.

Sunday morning dawned rainy, but nothing could dampen the welcome extended to Frank Robbins who was sitting in the lobby to greet the classmates as they came down to breakfast. Business had prevented his getting away earlier, but he left Buffalo Saturday evening, and wired for an auto to meet him in Springfield at daybreak Sunday morning to take him to New London in time for breakfast. Thus he won the title of the most loyal classmate. Owing to the rain, sailing and tennis were out of the question, and very little golf was played. The party dispersed during the day, all voting it the most successful affair the Class has ever had.

The last addition to the rolls of the Class is Miss Barbara Jane Manley, who was born on June 3. At our Thirty-Fifth Reunion Miss Barbara will be about ready to take on all other class daughters at golf. — Charlie Porter has resigned his position as Comptroller of the Cambridge Gas Light Company to become Professor of Accounting at the Institute. He began his duties in September. — Jack Fruit was in Boston on a business trip in September and at the Technology luncheon on Tuesday, September 13. Patch, Taylor, Greeley, Fowler and the Class Secretary were on hand to greet him.

Word has been received of the death, on March 11, of Irving Williams of Harrisburg, Penna. Williams was for many years with the Pennsylvania Railroad: first at the Altoona shops; later at Olean, New York, and Phillips-town, Penna.; and then as assistant master mechanic at Chambersburg, Altoona, and Harrisburg. Three years ago he resigned to become Sales Engineer for the Injector Department of William Sellers and Company, with headquarters in Harrisburg. Williams was a member of the American Society of Mechanical Engineers and the Pittsburgh Railroad Club. He was unmarried.

Harry Allan George died suddenly of heart failure on September 16. George was for many years assistant to Nickerson in the Engineering Department of the A. A. C. Company. Later he was with the Road Oil Department of the Alden Speares Sons Company. Two years ago he became Superintendent of Heating and Power at Boston University.

Last winter George went through a serious operation but was apparently in good health after it. George was married in 1907 to Demetri Simmons. Besides his widow, he leaves a daughter Mary, nineteen years old, and a son, Harry A. George, Jr., aged fourteen. — **FREDERICK H. HUNTER, Secretary**, Box 11, West Roxbury, Mass. **BURTON G. PHILBRICK, Assistant Secretary**, 246 Stuart Street, Boston, Mass.

'04

This being the first issue of The Review since the summer vacation season it seems proper, although somewhat belated, for the Secretary to express the hope that all his classmates enjoyed a very happy summer and are now pursuing their respective occupations with added zeal due to the benefits of the summer season.

The first event to be reported is the participation of the Class in the Technology Convention held in New York last June. R. A. Wentworth was selected by the Secretary to conduct the class luncheon on June 11 and the Secretary knows of no better way to record the event than to quote from a letter from Wentworth: "1904 had a small delegation on the boat trip, including Emerson, Haley, Easterbrooks and Mrs. Easterbrooks, Wentworth and Mrs. Wentworth. There may have been others, as there was no check up by classes. There were eleven at the luncheon: Chamberlin, Crane, Easterbrooks, Elwell, Emerson, Haar and Miss Haar, Haley, Porter, Wentworth and Mrs. Wentworth. This was a quiet affair in a large room with several other classes, each class having a separate table. We held our own in the cheers and singing, and between times enjoyed getting up to date on each other's activities and interests. Crane was for some years in London, as European manager of the duPont Company, but has recently returned to Wilmington as President of the duPont National Ammonia Company and a Director of the duPont Company. — Haley, as you probably know, is President of the H. M. Haley Electrical Company, 137 Pearl Street, Boston. — Porter came to New York last summer as bridge designer with the New York Central Railroad, at Room 932, 466 Lexington Avenue, New York. The others present were continuing at the old stand.

"Replies to the luncheon notices included a phone call from Gill who said that he had to be in Washington on June 11, but the consensus of opinion at the luncheon was that the Patent Office had a rival in Lindbergh's Washington reception. Mrs. Gill has been in the hospital for some time and Gill is living at the New York Fraternity Club, 32 East 38th Street, New York. — Bill Evans phoned that to his great regret he had also to be out of town. — Trowbridge wrote from Leesburg, Fla.: 'I wish I might be with you on June 11. I have a large orange grove here and cannot leave. I have been here since Christmas day, 1925. Best wishes to all.'

"Robert Palmer of the General Electric Research Laboratory is in Europe on a vacation and will not be back until July 5. — Charlie Haynes writes: 'Sorry to miss the big party, but I have just rented a 100-acre camp for June and want to put in all the time possible there.' — Ralph Ingram said, 'Sorry, but don't see how. Regards and best of

luck.' — Harry Rollins said, 'I am sorry not to be able to be there. I have two children who have been away to school all year and will be home the first week in June to stay only until June 23 when they go abroad to be gone all summer. I can't forego the pleasure of being with them.' — Mason is traveling in Europe. — Harrington is in Europe. — Charles wrote a very fine letter which is enclosed. — Ainsworth is abroad. — Merryweather says, 'Sorry, I will not be in the United States.' — Brief regrets came also from Blum, Lyon, McBride and Clarence Williams.

"At the great banquet, Mert Emerson sat as usual with the wax works and was elected Vice-President of the Technology Clubs Associated. Ordinary participants included Haley the faithful, Chamberlin, Riddell, Miss Haar and Selby, Mrs. L. H. Smith, Mrs. Whitaker, Mrs. Wentworth, and their respective classmates. So far as your reporter could learn, these people were continuing much as heretofore, with the exception of Whitaker, who is now chief engineer of the New York Telephone Company in New Jersey, with an office at 1060 Broad Street, Newark, and with the further exception of Riddell, who has deserted the Department of Commerce to become a consulting mining engineer on metals, coal and petroleum, with offices on the 51st floor of the Woolworth Building, New York. Despite two children, a boy of sixteen and a girl of seven, Mrs. Riddell accompanied him recently on a four months' trip to Panama which included considerable jungle travel, visits to places where a white woman had never been seen, and a five-hour aeroplane flight to catch a train. Riddell was leaving the day after the banquet for a month's travel to Mexico, to be immediately followed by a visit to London. — A portion of the Wentworth family had dinner in Gary, Ind., ten days ago with Walter and Mrs. Hadley and their two daughters. Walter confirms the late Judge Gary's statement that the Steel Corporation's business is excellent. — One of my boys has been in Connecticut at Westminster School this winter, while Mrs. Wentworth and the other two children lived on a California desert, and subsequently toured Arizona and California. They tried to see, but missed, Ovington and Paine. In connection with these visits, Paine wrote mentioning a trip to Europe, followed by visits to the Oil Country and the East. Paine continues, 'I get to New York usually a few times a year, but am in and out in a hurry as I do not enjoy the crowds and atmosphere. You know, we Californians become so saturated with our own talk about the glories of this country that we cannot see good anywhere else. This summer, if a kind Providence and the price of crude oil permit, I shall spend with a pack outfit in the high Sierras, a wonderful camping country where, as the Irishman said, "the hand of man has never set foot"' — Ovington is President of an Aeronautical Club, and Chairman of the Santa Barbara Chamber of Commerce Commission on Aviation.

"I am sorry to miss your week-end party, but have to move a part of the family to Pocono Lake Preserve, Penna., for the summer. We had a camp there last year and enjoyed the summer very much."

As will be seen from the foregoing there is considerable news in the letter which does not

1904 Continued

primarily concern the convention but which is of great interest to members of the Class.

The week-end party referred to by Wentworth was the Annual Class Reunion which was held on June 24, 25 and 26 at the East Bay Lodge, Osterville, Mass. The Reunion was attended by the same number as in 1926 although the personnel was slightly different. The events were about the same as usual, consisting chiefly of golf, although Jack Draper brought along a target and a set of feathered darts which occasioned a good deal of sport and also considerable addition to the finances of certain members of the party. E. H. Russell seemed to be the champion dart thrower and says there is more money in it than there is in "throwing the bull." Rockwood has become a confirmed amateur moving picture producer and took his moving picture camera and projector to the Reunion. Movies were taken of various members of the party playing golf and Saturday evening a moving picture entertainment was given which compared very favorably with programs in some of the movie houses. The annual rain storm occurring during the Reunion came on Sunday morning which interfered with the plans of the party for golf but which failed to dampen their enthusiasm for the Reunion. Those present this year were M. L. Emerson, Kendall, Haley, Homer, Munster, Parker, J. H. Draper, Holcombe, Hiller, C. J. Emerson, Sweetser, Dennie, E. H. Russell, Jr., Rockwood and the Secretary.

Rockwood has a summer place at Gray Gables and is in the habit of spending his week-ends there so he left the Reunion Saturday night after the conclusion of the moving pictures. Monday morning on his way to Boston accompanied by his daughter and nephew he became mixed up with the Newport express on the railroad crossing in Westwood. The locomotive was not damaged but the rear end of Rockwood's car was entirely removed by the collision. Very fortunately Rockwood and his passengers as well as the priceless moving pictures taken of the Class were entirely uninjured, although after hearing his account of the crash it is almost impossible to understand how they escaped.

The next item, from the Pacific coast, is a portion of a letter from E. W. Charles mentioned in Wentworth's letter. "Tell the boys that I am connected with the Portland Gas and Coke Company and have been since 1921. I have a family of three children: the oldest, a boy, seventeen years of age and a senior in high school; the second, a boy, fourteen, and in the eighth grade; the last one a girl, twelve years of age and in the seventh grade. Mrs. Charles is very active in the music in the public schools, being one of the supervisors. We are very happy to be living out in the Far West, and we think it is God's country notwithstanding what you New Yorkers think."

The list of graduates of Yale University for the Class of 1927 contains the name of Harcourt W. Bull, Jr. It is a sign that our graduation is becoming more and more remote as we read of the graduation from college of sons and daughters of classmates. — On July 12 our genial classmate, Dan Comstock, became the proud father of Daniel F. Comstock, Jr., and the Secretary is very confident that he voices the sentiments of the entire Class and

particularly those of the annual reunion gang in extending congratulations to Dan.

Julius L. Hecht, Vice-President in charge of operation for the Public Service Company of Northern Illinois, was elected President of the Illinois Electric Association during that organization's annual convention in Springfield last spring. Mr. Hecht, who has been an official of the Public Service Company since 1923, was graduated from Technology in 1904. Shortly thereafter he became construction engineer for the North Shore Electric Company, the principal predecessor of the Public Service Company. After numerous promotions to engineering positions of increasing responsibility, Mr. Hecht in 1915 became superintendent of electrical production, and in 1921 assistant to the vice-president in charge of operation. He is past President of the Western Society of Engineers and the National District Heating Association, a member of the American Society of Mechanical Engineers and also is active in the Chicago Engineers Club. He resides with his family in Evanston.

In addition to being elected Vice-President of the Technology Clubs Associated, Mert Emerson has also received other honors during the past summer. In addition to his position as Vice-President of the American Pneumatic Service Company, which he has held for some time, he is now President of the Lamson Company and Acting President of the American Pneumatic Service Company. We are all very glad and happy that Mert's sterling qualities should be recognized but the particular sting in this promotion is the fact that he has been obliged to move himself and family to Syracuse, N. Y., where the headquarters of his companies are located. However, he comes to Boston once every month so we shall not entirely lose touch with him.

There is very seldom a gathering of Technology people when the Class of '04 does not bob up in front in some respect. At the Annual Field Day held at the Rollins Estate in Dover, N. H., last June, Mrs. Arthur O. Roberts won the prize for the best individual score in archery and was awarded the silver cup in honor of this event.

Elmer Allen Holbrook, Dean of the School of Mines and Metallurgy of Pennsylvania State College, has been appointed Dean of the Schools of Engineering and Mines at the University of Pittsburgh, to succeed Dr. Frederick L. Bishop. The new dean took office on September 1. Dean Holbrook has been at Pennsylvania State College since 1922. He was graduated from Technology in 1904 and received the honorary degree of engineer of mines from the University of Illinois in 1916. After several years of practical work as superintendent of mining companies in Montana, in Mexico and in Canada, he designed and erected a mining and metallurgical laboratory for the province of Nova Scotia and became professor of these branches at the Nova Scotia Technical College. From 1914 until the outbreak of the war, Dean Holbrook was professor of engineering at the University of Illinois. He then entered the service of the U. S. Bureau of Mines and was appointed acting chief mining engineer of the Bureau at Washington, D. C., in 1918. He was sent to Pittsburgh as first superintendent of the new station and research laboratories

of the Bureau in 1919, and became assistant director of the Bureau at Washington in 1920, a position which he held until his appointment as Dean of the School of Mines and Metallurgy at Pennsylvania State College in 1922.

Robert Dennie, who went to Florida two years ago, has decided that there is no place like New England and he has returned from the Tropics and is now representative for the New England States for the Electric Hose and Rubber Company of Wilmington, Del., and is making his home in Belmont. — From time to time we have told of the progress of O. G. Thurlow of Birmingham, Ala., and we are now pleased to learn that last May the honorary degree of Doctor of Science was conferred on him by the University of Alabama in recognition of his distinguished services to the State of Alabama.

In reply to the notice for the Annual Reunion, H. H. Needham wrote stating that he would be unable to be present this year, but hoped to be in the United States next year and attend the Reunion. A quotation from his letter gives some idea of Technology activities in Paris where he is located with the International General Electric Company. "We have a Technology Reunion Luncheon here once in a while, usually not more often than once a year. Last year we had Fo Gelett Burgess, author of the children stories, and Dean Burton with us and about eleven other Technology men. Last month Bob Palmer and his wife and mother spent about a week with us here in Paris, and it was like old times to see him again. He is spending a couple of months' vacation touring Europe and is apparently enjoying himself. If any of the other boys happen to come to Paris, tell them to be sure to look me up and I will be glad to show them some of the sights of the town."

The Secretary points with pride to the amount of news in this month's issue and sincerely hopes that he will not have to view with alarm the approach of the next publication date. — HENRY W. STEVENS, *Secretary*, 12 Garrison Street, Chestnut Hill, Mass. AMASA M. HOLCOMBE, *Assistant Secretary*, 3305 18th Street, N. W., Washington, D. C.

'05 Hub Kenway has left the United Shoe Machinery Corporation and hung out his shingle at 68 Devonshire Street, Boston, as counsellor at law and patent attorney. On the letterhead there also appears "W. K. Lewis, Ph.D., Technical Consultant." Hub was manager of the Experimental Department located at the Beverly factory. On July 28, a farewell dinner was given him by 200 of his associates at Salem Willows when a \$200 purse of gold was presented. Among the speakers was George Thomas, general superintendent of the Beverly factory. Kenway was assistant examiner, U. S. Patent Office, 1906-08; Patent Department, United Shoe Machinery Corporation, 1908-17 (the last two years of this time he was acting manager); manager of the Experimental Department, 1917-27. He has taken out a number of patents on shoe machinery. It is an easy guess that the informal firm of Kenway, Crosby and Jones will be handling a big lot of interstate patent business.

One day in August your Secretary drove

1905 Continued

through the '05 summer colony on Webster Lake, Franklin, N. H., where Kenway, Grove Marcy and Ralph Patch have settled. At last we saw Grove's famous air-cooled farm where all the apples are raised to beat Bob Lord. But all the men were hard at work in Boston.

Word from Patch, by the way, conveys the interesting information that the item we had in The July Review about Ralph's being a Vice-President of the American Drug Manufacturers Association was "only about a year old." Well, we are lucky to have it at all. He says: "At that time I was also President of the American Pharmaceutical Manufacturers Association. Now that job is finished and I have a little time to devote to our own business. Our business, by the way, has doubled in the last two years. Just now we are busy on a \$1,000,000 addition to our Stoneham plant." Was it the delectable cod liver oil?

Illness prevented your Secretary's going to the Reunion in New York in June. Ray Bell took charge of the Class luncheon, and although the return post cards indicated a possible attendance of two or three, there were actually twelve: Anderson, Philadelphia; Henry Buff, Boston; John and Mrs. Damon, Cheshire, Connecticut; George Jones, Chicago; Ray Bell, Gorham Crosby, Jim Fouhy, Bill Motter, Louis Robbe and Herb Wilcox, New York. At the banquet Jones and Motter both spoke, one for Chicago and the other for regional scholarships. And Jones was reelected Vice-President.

Perhaps you noticed in a recent Review that Chesterman, Vice-President of the M. I. T. Club of Western Pennsylvania and of the Bell Telephone Company of Western Pennsylvania, was toastmaster at the first Intercollegiate Alumni dinner, held in Pittsburgh. He also provided the entertainment, — talking movies, — doubtless the Vitaphone of which Wilcox is general manager, though we have not heard that he went to Pittsburgh.

On the letterhead of the English Electric Company, Limited, Foster's Buildings, 22 High Street, Sheffield, England, John Eadie writes a letter which covers some of his recent personal history that we are glad to print. He says: "Really there is not much news that I can give you about myself. During the war I managed to get a commission as an Engineer Officer R. N., and for about two years I was a watch keeping officer on the *Ajax*, one of the Grand Fleet ships. After that I was sent as senior engineer in a light cruiser, the *Lowe-stoft*, when she was flag ship in the Adriatic. We had a much more interesting time there than in the North Sea, and we managed to get all over the eastern Mediterranean where we had some exciting times chasing the Hun. We were fortunate enough not to get caught ourselves. I did not finish with the Navy until October 1919, as we had to stay out there until our ship was relieved on the station. When I did get back I came to my old company where they gave me a job in the London office for four years, and after that they moved me to the Birmingham office and then on here, where I hope I am settled for some time. Trade in this district is very bad at present. The coal strike of last year has upset everything, and the collieries lost so much money that it will take them a long time to recover and be in a position to go in for many extensions in the way of electrical plants. I

am afraid that I am not one of the distinguished members of the Class of '05, and over here one can call himself fortunate who can hold on to his job and keep hoping for better times. Still the great thing to do is to keep smiling. My principal trouble is I am getting disgustingly fat and rather middle-aged, which is very sad. Give my kindest regards to any of my old friends you may meet."

On July 22 at the Church of Saint Mary the Virgin, Bill Motter was married to Miss Elsie Louise Catlin of New York. A few days later your Secretary and his wife had the pleasure of entertaining the couple in Middletown, and extending congratulations to both. — Mrs. Emil G. Caroe of London, England, has announced the engagement of her daughter, Miss Nora M. Caroe to Captain Howard M. Edmunds, also of London. Miss Caroe, who is the daughter of the late Emil G. Caroe, for some time has made her home in New York. She was educated in Europe and at the Sorbonne in Paris. During the World War Edmunds served with the Scots Guards. His mother before her marriage was Miss Ellen M. Howard of Providence, R. I. The wedding will take place in the autumn.

Has anybody run his car up on to a Cowdrey Dynamic Brake Tester and thought of the inventor, Irving Cowdrey, Associate Professor of Testing Materials at Technology? — R. D. Gatewood, manager of the bureau of maintenance and repairs of the Merchant Fleet Corporation, has charge of the conversion of a fleet of ships from steam to Diesel drive, a \$25,000,000 program. — Herman Lackman is President of the Technology Club of Cincinnati. — Sidney M. Henry, who was with the Emergency Fleet Corporation, is now with E. P. Farley and Company, 11 Broadway, New York. — Norman Lombard "claims gold has failed as a standard of value due to price gyrations" and "commends index numbers to the man on the street." — T. C. Pinkerton is a special supervising engineer of erection and operation of plants installed by the Silica Gel Corporation. He was recently in Hindenburg (Upper Silesia) Germany, and may be addressed in care of the Davidson Chemical Company, Baltimore, Md.

An organization chart of the Cross and Brown Company, printed in the New York papers, exposes Herbert Files as "Super. Engr." reporting directly to the President. He would seem to have charge of the operation and upkeep of all the buildings which this company manages. — Bill Keen has a new address: Latrobe Electric Steel Company, 8 West 40th Street, New York. He writes that he started with that company last April as sales metallurgist and is on the road a good part of the time.

The New York *Herald Tribune* of June 5 carried quite a story under the headline "Harry N. Atwood Plans Gigantic Ocean Air Line." The story said that "Atwood who was believed to have been killed in a flight in Japan several years ago, has been living for five years in a hilltop home in Monson, Mass., where he has been perfecting plans for his giant airplane. It was in 1912 that Atwood began smashing flying records and, in that year, completed what was in that day an unbelievably long voyage by air, from St. Louis to New York. Though we wrote Atwood in an attempt to learn more of the venture,

there was no reply. — ROSWELL DAVIS, Secretary, Wes Station, Middletown, Conn. S. T. STRICKLAND, Assistant Secretary, 20 Newbury Street, Boston, Mass.

'06 You know how the sleuths in the best sellers try to reconstruct some horrible crime. Well, here is the Assistant Secretary under the mazdas with various exhibits spread around him trying to reconstruct the doings on that memorable day over three months ago when the Technology Clubs Associated put a dent in hard boiled N'Yark — and it was a crime that more of you '06 fellows couldn't get there to enjoy it with us.

Friday's doings I can report only second-hand, as business kept me in Boston and a high school reunion, the first all-alumni reunion at Gloucester, took me down there Friday evening. I faded from that picture to catch the last train to Boston and jumped the sleeper to New York. Friday's business meeting can be passed over lightly as the '06 attendance was meagre (plus or minus), but judging by Andy Keleher's vivid description of that Friday evening boat ride, I haven't decided even yet whether I ought to feel glad or sorry that I missed it. His story seemed to be one more proof of that old law of diminishing returns, namely that what we get out of anything is in inverse ratio to what we put into it.

Perhaps there's some static in that, but anyway the sleeper dropped me in the Grand Central Terminal in time to get down to the Waldorf to help the porters swab down decks and open up the Technology headquarters for Saturday's program, along with Professor Miller and Dean Burton and a few more of the old guard. Finally Mathesius dropped in and told me that Otto had succumbed due to the terrific amount of work involved in getting a few '06 men together for a class luncheon so I phoned Herb Whiting, who had been groomed as his understudy, and received full directions. Then, as none of the personally conducted inspection trips appealed to me, I slipped down town and called on a few business associates of by-gone days.

Arriving back at the Waldorf, I burst in upon the assembled multitude in Room 765, just in time to absorb the real spirit of the occasion. Herby was in charge, and as his business has to do entirely with illuminants, you can readily appreciate what a well lit — or is lighted more correct — bunch of goose-steppers wended their way into the center table of the private dining room where a dozen or so of the other class luncheons were in progress. '06 gave its war-cry, went out in front, and stayed there. While they're enjoying that tasty lunch I'll call the roll. On my left, Cy Young, all the way from Minneapolis; next, Bob Hursh who is in New York now; then Buchanan, New York; Edgar Berliner, like the good scout he is, came down from Montreal; Bill Englis, New York; Harold Ingraham, New York; Herb Whiting; Bert Hemphill, New York; Mathesius, New York; Stew Coey from across the river; Charlie Emerson who is in New York now; Charlie Breitke from Boonton, N. J.; Louis Chadwick, New York; Herb Terrell from Philly; Ed Campbell, New York; "Miss" McGinnis, who had just cleaned up her

1906 Continued

exams in time to get over from Wyncote, Penna.; S. Wells Wilder from Paterson; W. C. Turner from White Plains; H. D. Loring all the way from Cincinnati; and last but not least, the effervescent Andy Keleher of North and South America.

Lunch over, with all the reminiscing and inquiring about old chums, we divided forces. Herb Whiting took a party over to Jersey for golf, Andy Keleher captured a few of us to enjoy the hospitality of his comfortable apartment, and the natives departed for their various Saturday afternoon vocations. I haven't any report from the golf tournament but I'll bet they all enjoyed the nineteenth hole, and I know that Andy's guests thoroughly enjoyed themselves.

All too soon it was time to gather again at the Waldorf, this time in the Grand Ball Room, for the banquet, the demonstration and explanation of the Radio Newspaper and the Movietone, reported in the July Review. The '06 attendance at the banquet was a bit disappointing, including only the following: Stew Coey, Burton and Mrs. Kendall, Howard Barnes, Miss McGinnis, H. D. Loring, Mathesius, Charlie Emerson and Andy Keleher, besides myself. It was a memorable occasion and took me back to that earlier epoch-making event, the phantom telephone dinner in 1916 at Symphony Hall. As I stood in front of the Radio Newspaper, marveling at its facsimile reproduction of messages from across two oceans, it slowly spelled this out: "Technology Club of Hawaii sends greetings from the Paradise of the Pacific, Aloha Nui Ka Kou." Although it was signed by Horace Johnson as President, I thought, Furer Old Scout, Shake! — J. W. KIDDER, *Secretary*, 60 Oliver Street, Boston, Mass. E. B. ROWE, *Assistant Secretary*, 11 Cushing Road, Wellesley, Mass.

'07 *A Personal Message from the Secretary:* On July 11 Lawrie Allen telephoned me suggesting that it would be pleasant for him and me to eat lunch together to talk over our recent Twentieth Reunion. I agreed, and we made an appointment for July 15, with the understanding that if anything of special importance in a business way should come up with either of us, we would notify each other and postpone the engagement. It so happened that early in the forenoon of July 15 I was able to make an appointment for a one o'clock luncheon with a man whom I had been trying to meet on a business matter for over two months, consequently I telephoned to Lawrie that he and I would have to put off our meeting until the following week. Lawrie was evidently quite disturbed by this announcement, and said that he had asked a few other members of the Class to meet with us that noon, and had a private dining room all engaged at the Boston Chamber of Commerce, and asked me if I couldn't be with them for a few minutes, at least. I said I could do that, but could not eat with them and would have to leave by 12.50. So Lawrie called for me at my office, and we found in the private dining room Harold Wonson, Gilbert Small, Ed Moreland, Don Robbins, W. H. Martin and D. C. Ruff of Minneapolis who happened to be in Boston at that time. Then, to my utter astonishment, Lawrie made a little speech saying something

about my service as Class Secretary for twenty years, and the desire of the Class to express some appreciation, and then he handed me a package. On opening this I found a beautiful watch manufactured by the International Company of Switzerland — Swiss movement and twenty-one jewels — with a handsome chain of gold and platinum links. On the inside of the case was inscribed, "Presented to Bryant Nichols, Class Secretary, by M. I. T. 1907, June 18, 1927." I was completely surprised by this event, and unable to make any adequate expression of thanks. I was assured that the gift came from a great many members of the Class. To all of you fine fellows I want to express my heartfelt appreciation, not only for the gift itself, which I shall always use and treasure, but especially for your thoughtfulness. I have always thoroughly enjoyed being Secretary of our Class and have never given a thought to receiving any compensation for it other than the satisfaction of doing a worthwhile piece of work. From now on the relationships with all of you will seem a little closer. Thank you — every one of you!

You may be interested to know that, ungracious as it seemed to leave the class group after receiving this gift, I kept my one o'clock appointment with my business acquaintance, and whether the gift, which I showed him, had anything to do with it or not, at any rate, I wrote a \$50,000 insurance policy on his life that afternoon. — *Bryant Nichols*.

Our Twentieth Reunion was held at East Bay Lodge at Osterville on Cape Cod, Mass., June 16 to 19. Blessed with perfect weather, our gathering was just about as ideal in every way as it could be. We wish that more of the Class could have been there, but forty-three fellows were present for at least part of the time, and they all agreed that the location of the house, the food, the hospitality of Mr. Brown, the proprietor, the sleeping and rooming comforts, the golf course, the tennis court, the swimming, the boating, the delightful drives in the vicinity, all combined to make the spot perfect for a class reunion. It was, by all odds, the most successful reunion we have ever had. In these notes we will not attempt to give many details, because the Secretary plans to publish, as soon as he can prepare copy, a folder giving names and addresses and business connections of all members of the Class, and he will incorporate in that a story of the Reunion with various comments and incidents. We will state here, however, that our receipts for the Reunion were \$1091.47, and expenses \$1088.26, leaving an operating balance of \$3.21. How's that for good figuring by the Reunion Committee? The sum which the fellows paid for the gathering — \$30.00 for full three days, and less for shorter times — included everything except transportation, and by "everything" we mean all food, room accommodations, full golf privileges as much as anyone wanted to play, use of tennis courts, a three-hour sail down the bay, all the smokes anyone wanted, bathing and bath-house privileges, garage costs and tips. Bert Bancroft said he never got so much for \$30.00 before in his life, and everyone felt the same way. The fellows present for at least a part of the Reunion were H. W. Mahr, Chet Vose, S. J. Egan, Roy Lindsay, Ralph Hall, John

Bradley, O. L. Peabody, Frank MacGregor, Harry Moody, Bert Bancroft, A. H. Tashjian, Herbert Spear, Dick Woodbridge, John Frank, George Crane, Tommy Gould, Lester Brock, Hud Hastings, Kenneth Moller, Prescott Nichols, Fred Moses, Gardner Prouty, Oscar Starkweather, Ed Squire, Willis Waldo, Allen Pope, Kar Richards, Lawrie Allen, Don Robbins, Franklin Ripley, Bob Keyes, W. P. Rayner, Charlie Allen, Phil Walker, F. G. Dempwolf, Fred Schmidt, Emerson Packard, Gilbert Small, Herb Hosmer, W. H. Martin, Stanley Wires, Ralph Hudson, Harold Farrington, and Bryant Nichols. Dennie, '11, the Alumni Secretary, was our guest from Thursday night until Saturday afternoon. We missed some of our regular attendants at reunions. Macomber, Class President, was obliged to leave for Europe on a business trip just a week before; Harold Wonson, Clarence Lamont, Sam Coupal, Sam Marx, were kept away, to their sorrow and our regrets, by business or family duties. Telegrams were received at Osterville from Louis Freedman, Bob Albro, Carl Trauerman, Clarence Lamont, a cable from Jim Barker, and a cable from Paris from Sam Marx (you will have to ask John Frank if this last message was genuine), and a typically affectionate letter from Stud Leavell!

Instead of being hard up for Class Notes, as is frequently the case, we have a great deal more material than we can use for this issue, thanks to the statistics sheets received since last May. The Review Editors tell me that 3,000 words is the limit for the '07 notes for this edition, so we'll give them some news now and use the rest during the winter.

A year or more ago Bert Bancroft was elected by the Class to be our representative on the Alumni Council. He attended some Council meetings and did good work, but last spring he resigned because his business frequently prevented his attendance, and he felt it was not fair to the Council or to the Class that he continue in the office. At our Reunion last June, Lawrence Allen was chosen to take Bert's place. Lawrie is located in Boston now, so can attend Council meetings, and we know he will be an enthusiastic and useful representative of '07. Speaking of Lawrie, we might as well state now as later that he is connected with the experimental department of the United Shoe Machinery Company, having his office at 205 Lincoln Street, Boston, and living at 24 Bridge Street, Manchester. With his wife and three children, he seems to be enjoying life to the utmost, in spite of some tough problems he has had to solve.

Just a few days before our Reunion, word came of the death, under tragic circumstances, on May 22, of our classmate, Victor Heyl Dickson. He was driving his car through Winston-Salem, North Carolina, on his way North, with his sister and her little boy, when a can of gasoline on the running board caught fire and exploded. Though on fire, he helped his sister and the boy from the car, which was completely destroyed. He was so badly burned that he lived only three or four hours. The boy also died a few days later. Dickson was a graduate in mechanical engineering. He was associated with several different concerns from 1907 to 1921, when he became instructor in accounting in LaSalle

1907 Continued

Extension University at Chicago, and then went to Florida, becoming auditor and general business manager of the Hollywood Land Company, which position he held until the great storm in Florida in September, 1926. From then until the time of his death he was an auditor with Ernst and Ernst, public accountants. Dickson was married in 1914, but was divorced in 1920, having no children. Your Secretary wrote an appropriate letter of sympathy to Dickson's sister, Mrs. P. T. Matthews of 550 South Second Street, Chillicothe, Ill., who had written to him the facts recorded above.

On June 16 Starr Truscott was married to Katherine Townsend Morse of Wellesley. Truscott is a mechanical engineer and has held commissions in the Canal Zone as well as at the Bureau of Construction and Repair at Washington. He has been sent by the government on special work to England, France, and Italy, and is at present in the government service as an aeronautical engineer. His business address is Bureau of Aeronautics, Navy Department, Washington, D. C., and his home is 3525 Davenport Street, N. W., Washington.

Clifford Allbright is in business for himself as an architect, having his office at 308 Boylston Street, Boston. Ever since 1907 he has followed his profession, working with different firms and organizations, including the Construction Division at Washington from 1917 to 1918, and being by himself since 1919. He was married in 1916, but his wife died in 1918. — Leon Allen has been employed by the Town of Brookline, Mass., ever since 1907. He is now town accountant of this suburb of Boston which is said to be one of the wealthiest towns in the United States. Leon has two children, fourteen and eleven years old, and lives at 40 Naples Road, Brookline. His chief avocation is his activity in Masonic circles, where he has attained distinction, having held many high offices. — Anthony B. Arnold is one of those men who made a fine connection in business in 1907 and has stuck to it. He entered the engineering department of the American Agricultural Chemical Company, became chief engineer in 1921, and in 1926 was made assistant to the president. Arnold, who is married but has no children, lives at 538 Lawrence Avenue, Westfield, N. J., his business address being 420 Lexington Avenue, New York City. — Richard C. Ashenden's record is almost as much of a one-concern association as Arnold's. Dick was roadmaster with the Boston and Albany Railroad until 1918, and then became district representative of the Detroit Graphite Company, with an office at 250 Stuart Street, Boston, where he is now. He lives with his wife and two children at 95 Fair Oaks Avenue, Newtonville. — Cecil F. Baker has consistently followed architectural practice. After two or three connections up to 1917, he became professor of architecture at Kansas State College, Manhattan, Kansas until 1923, when he filled a similar chair at the University of Cincinnati until 1925, when he became chief draftsman for H. V. von Holst, architect, at 79 West Monroe Street, Chicago. Cecil has two sons, his home address being 558 Willow Road, Winnetka, Ill. — We were delighted to hear recently from Charles E. Baker. A graduate of sanitary engineering, Baker has been in the dredging business ever

since 1907. At present he is New York manager of the Trimount Dredging Company, which has its headquarters at Boston. His mail and residence address is 120 Forest Avenue, Rye, N. Y. Baker is a member of the "five-or-more" club of our Class, as he has three boys and two girls, ranging in age from six to sixteen. — F. Eugene Banfield received training not only at the Institute but at Brown University, where he received the degrees of Ph.B. and B.Sc. In 1909 he entered the employ of Saco and Pettie Machine Works, became assistant superintendent of the Saco-Lowell shops in 1912, superintendent in 1916, assistant agent in 1922, and agent and works manager in 1923. He is now located at Biddeford, Maine, living at 265 North Street, Saco, Maine. He was married in 1910, but his wife died in 1925, and in 1926 he was married a second time. He has a son sixteen years old, and a step-daughter fifteen. During his continuous connection with his firm, which manufactures textile machinery, he has made many contributions in the improvement of the manufacturing of this type of merchandise. — Without doubt, one of the most influential business men in our Class is Jim Barker. After various connections as draftsman, bridge engineer, and instructor, in 1919 he became associated with the First National Bank of Boston, and in March, 1920, sailed for Buenos Aires, to become manager of the branch of the bank in that city. Under his management, the South American business of the bank has grown tremendously, and Jim has prospered accordingly. He is also Vice-President of the Argentine Portland Cement Company, and a director of the Argentine Boston Insurance Company, an ex-president of the American Chamber of Commerce of South America, along with many other offices in various business and social clubs. Jim has four children and resides at Florida 99, Buenos Aires, Argentina, South America. — BRYANT NICHOLS, *Secretary*, 2 Rowe Street, Auburndale, Mass. HAROLD S. WILSON, *Assistant Secretary*, W. H. McElwain Company, Manchester, N. H.

'08 No notes have been received by The Review Editors from the Secretary of this Class for inclusion in the November issue. The Secretary received the usual notification that copy was due, accompanied by such news as had been compiled in The Review office. Members of the Class having news or inquiries should address them to Harold L. Carter, *Secretary*, 185 Franklin Street, Boston, Mass.

'09 The Secretaries greet you all again at the start of another year. The July issue of The Review chronicled in detail the meeting of the Technology Clubs Associated in New York City last June. Tom Desmond, with the help of an able committee, put through a most successful meeting with the many details so admirably administered that one function followed another in a most enjoyable manner, culminating in the radio dinner at the Waldorf Saturday evening.

Naught-nine was well represented at the speakers' table by Tom Desmond, who presided over the meeting, and by John E.

Otterson, Vice-President of the Electrical Research Products, Inc., a subsidiary of the Western Electric Company, who outlined the method of taking and reproducing talking moving pictures. Seated at the table on the floor were twenty-six of our Class, including guests, thus making one of the largest delegations present.

The following day was spent at Briar Cliff Lodge, a beautiful place located about forty miles from New York City. The weather was perfect and the beautiful ride up the new Bronx Parkway and out into the country will long be remembered by those of us who were able to attend the class outing. The hotel bus met us at the Waldorf in the forenoon and conveyed us back again to the city in the evening. After the constant round of activities of the meeting in New York, the quiet day spent at the Lodge came as a delightful recreation. Some of the men played golf, some enjoyed the well-kept tennis courts, while most of us were content to just loaf and talk over old times with some classmate we had not seen for many years, perhaps. Our wives were with us too, and their attendance added much to the pleasure of the occasion. Hardy Cook and some of the other New York men attended to the arrangements for the affair, and to him and the others who assisted, we are indebted for one of the most enjoyable outings the Class ever had.

Although we have not as yet seen much of him, we understand that Jim Finnie sleeps in Boston at the University Club, but spends his days in Braintree, he now being the Treasurer and General Manager of the Stedman Products Company, makers of the original reinforced rubber flooring. We understand that Jim is also connected with the Appleton Rubber Company. — John Willard reports the birth on July 8, of John, Jr., and is mighty proud of him, too.

F. H. Soderstrom, who has been for a number of years in the employ of the Phelps-Dodge Corporation at Bisbee, Ariz., has been transferred to Tombstone, Ariz., to take charge of the Bunker Hill Mines there. After the war Soderstrom joined the engineering staff of the Old Dominion Copper Company at Globe, Ariz. In 1920 he went from Globe to the Stag Canyon Branch of the Phelps-Dodge Corporation at Dawson, N. Mex., where he spent the next three years. In 1923 he transferred to the Copper Queen Branch, joining the engineering staff on Sacramento Hill and then the underground engineering staff.

Announcement is made of the marriage last August of Miss Hildegard Shumway to George E. Washburn, who is now instructor of the Romance Languages in the College of Liberal Arts at Boston University. — Mollie Scharff has written that last spring when he was addressing a group of about fifty officers of the United States Army, who were on a visit to Pittsburgh in connection with their course in the Industrial War College on the subject of "Electric Power and Military Preparedness," he had the great pleasure of finding one of the members of the group to be none other than his classmate Major R. W. Riefkohl. He had a pleasant reunion with Rief, and saw him again the following day when he was showing the group of officers through the Colfax Power Station of the Duquesne Light Company.

While attending the convention of the

1909 Continued

National Electric Light Association at Atlantic City, Mollie also met a number of our classmates on the Boardwalk or on the Pier, including George Gadsby, who is President of the West Pennsylvania Power Company, at Pittsburgh, Phil Chase of the Philadelphia Electric Company at Philadelphia, Bob Keeney of the Connecticut Light and Power Company at Hartford, Hardy Cook, Engineer of Tests, of the Brooklyn Edison Company, Brooklyn, Ken May, who has recently been moved to the Philadelphia office of Arthur Perry and Company, Carl Koppitz of the Railway and Industrial Engineering Company, now a part of the American Brown Boveri Company, Greensburg, Pa., and Louis Jacoby of the Philadelphia office of the Westinghouse Electric and Manufacturing Company. — CHARLES R. MAIN, *Secretary*, 210 Devonshire Street, Boston, Mass. PAUL M. WISWALL, *Assistant Secretary*, Franklin Baker Building, Hoboken, N. J. MAURICE R. SCHARFF, *Assistant Secretary*, 435 Sixth Avenue, Pittsburgh, Penna.

'10

H. E. Beebe of Ipswich, S. D., has always been a live member and sends the following letter:

"The Class of 1910 are evidently very modest although they may, like myself, have reason to be, as achievements of any note are few and far between. However, you will find enclosed a clipping in regard to my election as President of the group of bankers in the northwestern portion of South Dakota, and I also was recently elected as one of the directors of the State Health Association.

"About one and a half years ago, I was delegate to the American Bankers Association at Atlantic City and had lunch with H. M. Trueblood, who now is some engineer with the American Tel. & Tel. Co. in New York. We all used to live at 17 St. James Avenue, which has now been replaced by a large building. The Class of 1910 will remember the three story houses, formerly a residence district, which in 1910 was used for boarding houses. Right around the corner was the electrical engineering department with an Art Club closer to Copley Square. I remember seeing there an exhibition of Sorola's paintings. On Boylston Street, and about one-half block towards the Common from the Technology Buildings, on the right side of the street was Huyler's Candy Shop where fudge sundaes repaid us at the end of the day's studies. Further down was the Tremont Hotel, in front of which Dr. Cook stopped his carriage and bowed to the crowd, including a great many students who had left their classes to see the man who claimed to have reached the North Pole.

"In looking through the Scroll of Phi Delta Theta, I notice from the prominence of five members of one graduating class in Kansas that it might seem that the Class of 1910 needs a Moses to arouse the rest of the members and lead them into prominence at least in the alumni records."

It will interest those of the Class who do not already know it, to learn that the earth inductor compass which has proved to be an indispensable part of all long distance sea flights was first tested out by Lt. Albert F. Hegenberger and Bradley Jones in 1923. They flew from Dayton, Ohio, to Boston in

bad weather, out of sight of land most of the time. — Van Court Warren, consulting geologist and valuation engineer, announces the removal of his office to 1025 L. A. Stock Exchange Building, Los Angeles, Calif. — DUDLEY CLAPP, *Secretary*, 16 Martin Street, Cambridge, Mass. R. O. FERNANDEZ, *Assistant Secretary*, 264 West Emerson Street, Melrose, Mass.

'11

Mrs. Talbot, widow of the late Dean H. P. Talbot, '85, has informed me that she appreciates more than she can say the floral tribute from 1911 and the many thoughtful letters of sympathy which she has received from our classmates. Men in 1911 certainly realize the well-nigh irreparable loss the Institute has suffered through his passing.

It is not encouraging to note the sparse response to date from our Class in the Alumni Dormitory Fund campaign, but ere these words appear in print your Secretary is confident that as a result of a further urge made to classmates in early October, the response will be more truly representative of our Class' interest in Technology.

Nat Seeley and his wife announce the arrival on August 28 of Clinton Barnum Seeley, their third child. — On September 3 we all were shocked to read an Associated Press dispatch in the papers whose opening sentence was, "Mr. and Mrs. Roy Desmond Huxley of Cleveland Heights, Ohio, were killed and their seven-year-old daughter was fatally hurt this afternoon when their automobile crashed through a guard rail at the edge of Niagara gorge and plunged down 100 feet to a ledge of rock." Truly we have lost one of our most learned and gifted classmates in Huxley, VI, who had been successively on the faculties of electrical engineering at Georgia Tech and the Case School of Applied Science. It was my good fortune to see him and chat with him last spring in Cleveland.

Our class get-togethers prior to and during the 1927 Convention of the Technology Clubs Associated in New York last spring were delightful and Don Stevens has chronicled the events in the four paragraphs which follow:

"1911 had a busy time during May and June in and around New York. Bill Orchard played host at the Maplewood Country Club to a small but select party, including Dennie, Pete White, Dick Gould, Royal Barton, Walter Welch and Don Stevens. Poker, golf and dinner were the order of events. During the Convention of the Technology Clubs Associated in June, Bill Orchard managed an especially successful evening on the Hudson River boat trip. He provided all members of the Class and their ladies with special paper hats with the numerals 1911, and organized a parade around the ship headed by most of the orchestra and wound up with an excellent song fest for the entire shipload with Dennie at the piano. It may be said that 1911 was the only live class on the boat. In addition to those attending the Maplewood party, we were augmented by Dick Ranger, Mrs. Welch, Harold Babbit, Erving Young and guest, Jim Campbell, Bill Foster, Ed Kenway, Mrs. Denison and Mrs. Orchard.

"At luncheon the following day, Pete White played host to those who could attend his favorite 'speak gently' and this served as a preliminary to an unexpected overflow at-

tendance at the main banquet at the Waldorf that evening where our party still further grew by the addition of Mrs. Ranger, Mr. and Mrs. Nat Seeley, Mrs. Jim Campbell, Livingston Ferris and others. The dinner has been described in detail elsewhere in The Review so it only remains to be added that 1911 feels especially honored in having two of its members as prime movers — Dennie as usual led the singing and cheering, and was responsible for a large part of the detail work of putting the Convention together, while Dick Ranger gave the principal address, and three editions of his photoradiograms of a newspaper were constantly in operation throughout the evening presenting not only news but pictures and, incidentally, greetings from Lindbergh.

"The way is open for a fall or spring meeting at either the Ridgewood Country Club, Ridgewood, N. J., or the Richmond County Country Club, Staten Island, and steps will be taken to organize a party."

Mrs. Denison and I certainly enjoyed the 1911 party in New York. The group there is very much alive and more good times are surely in store.

Art Coupal, II, took a delightful trans-continental trip with his brother, J. S. Coupal, '07, and is going to tell the boys in and around Boston about it at one of our fall dinners at Walker Memorial. — Additional glory to that already given 1911 by classmates was lent in mid-July when the Baltimore *Sun* stated that Mayor Broening announced the appointment of a commission to consider the revision or amendment of the city charter and the city code and one of the eight members was Bancroft Hill, I, who is harbor engineer for the city. We're proud of you, Ban.

Charlie Hobson, X, is now with the Boston Oil-O-Matic Company while O. W. Stewart, I, has been promoted to Assistant Manager, Inspection Department, of the Associated Factory Mutual Fire Insurance Companies, also in Boston. — A recent letter from Harry Tisdale, V, reveals the fact that he has become a real golf addict, the germs having been sown at the Fifteen-Year Reunion at Saybrook in 1926. He still reports enjoyment of and success in his dye stuffs work, specializing in sales. — Bill Whitney, III, has left Hartford and is now at Auburn, N. Y., with the McIntosh and Seymour Corporation.

In closing let me simply say, "Write to Dennie." Thank you. — ORVILLE B. DENISON, *Secretary*, Room 3-207, M. I. T., Cambridge, Mass. JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford, Mass.

'12

Now that we've buried the remains of the Fifteen Year Reunion, we've written the following obituary for your edification. Original plans called for a three-day party, June 3-5, at Mayflower Inn, Plymouth, where fond memories recall a wonderfully successful Reunion in 1922. In spite of several announcements in The Review, and several notices which were mailed, only five subscriptions were received before the time limit expired. We had to guarantee a considerable number to the Inn, and we couldn't do it on such a slim response. Reluctantly we abandoned the plans, and made emergency arrangements for a Sunday dinner and outing at Marblehead for the few who

1912 Continued

were expected. In the end we were overwhelmed with an attendance of thirty, as follows: Mr. and Mrs. D. E. Bent, Tucumcari, N. Mex.; Mr. and Mrs. N. T. McNeil, Salem; Mr. and Mrs. J. E. Whittlesey, Newton; Mr. and Mrs. J. A. Cook, Swampscott; Mr. and Mrs. J. I. Murray, Cambridge; Mr. and Mrs. John A. Noyes, Duluth, Mich., with their children, Lillian and Baldwin; Mr. and Mrs. E. H. Schell, Cambridge, with their daughter, Esther; Mr. and Mrs. Cyrus F. Springall, Malden; Mr. and Mrs. Elliott W. Tarr, Gloucester; Vernon C. Sloane, Somerville; William F. Bird, Rockland, Maine; R. F. Symonds, Marblehead; C. L. Tuller, Detroit, Mich.; Louis S. Walsh, Brookline; A. G. Gale, Marblehead; F. J. Shepard, Jr., Newton.

Mr. and Mrs. Henry Babcock, from Chicago, who were driving on in their automobile, were in an accident in the Berkshires and were delayed so that they did not arrive until the following day. Everyone enjoyed a shore dinner at the Corinthian Yacht Club and afterwards spent the afternoon on Shepard's lawn nearby. And so our Fifteen Year Reunion passed into history.

One week later in New York, a Class luncheon held at the Engineers Club on Saturday, June 11, in connection with the Convention of the Technology Clubs Associated, was attended by twenty classmates: L. M. White, X; R. M. Ferry, II; W. H. Lange, I; H. J. Manning, X; Randall Cremer, I; Page Golsan, I; H. W. Coddington, VI; L. W. Cooper, VI; H. H. Bracket, VI; Raycroft Walsh, III; C. L. Gabriel, X; J. A. Noyes, II; W. F. O'Brien, II; H. M. Priest, I; H. H. Griffen, II; J. C. Freeman, VI; N. A. Hall, VI; D. E. Bent, VI; J. A. Cook, VI; and D. J. McGrath, I.

A telegram of best wishes was received from Bob Wiseman, VI, en route to the Pacific Coast, on business for the Okonite Company of Passaic, N. J. A letter was read from Clarence MacDonough, I, stating that he was leaving for South America a few days before the luncheon, on business for the Foundation Company, of New York. Ernest (Red) Nicholson, I, en route for the West, sent in his best wishes (also a cash contribution). Ed Mason, VI, who had planned to attend, got a severe case of gripe, and missed a good party. He has since quite fully recovered. And Keb, who was prevented from attending by prior engagements, sent cordial greetings.

Enthusiastic support was pledged for the Twenty Year Reunion. And, more substantial than enthusiasm, was a voluntary cash subscription of one dollar each to start a fund for propaganda and plans for the Big Reunion. Will you do as much? Will you contribute one dollar a year, for the next five years, to help save the Class of 1912 from sinking into oblivion? With your dollar send in a letter to Shep or Mac and tell us what you know. That's the only way we can get live news into this column. Please stand by!

Late bulletins include news from E. H. Guilford, VI, of Los Angeles, who is now Chief Engineer of the Radiore Company, engaged in developing a process for prospecting ore by the use of electrical waves. (We hope we have this straight.) Guilford's offices are in the Hollingsworth Building. — Johnny Noyes, II, who represents the Sullivan Machinery Company in Duluth, has been elected

President of the Engineers Club of that city. — Gerald M. Keith, I, is an instructor in civil engineering at the Sheffield Scientific School. He resides at 186 Saint Ronan Street, New Haven, Conn.

O. C. Lombard, VI, reports the birth of a daughter, Nancy Jeannette, on June 10, 1927. This business kept him away from the Reunion, he admits, but he promises to be there strong in 1932. Lombard runs the general store in Short Falls, N. H., and believe us, from our sweltering office in the big city, we've envied him all summer long. — Paul Jeffers, VI, is now located at 810 West Sixth Street, Los Angeles, Calif. — R. W. Chandler, VI, was called for a special tour of duty in the Army, in June, in connection with law suits brought against the U. S. Government for alleged infringements of certain patents by the Air Service. Chan is the only surviving officer competent to handle the technical phases of the Government's defense. Assigned to the Judge Advocate General's office in Washington, his work has taken him to Paris, London and Berlin. — FREDERICK J. SHEPARD, JR., *Secretary*, 125 Walnut Street, Watertown, Mass. D. J. McGRATH, *Assistant Secretary*, McGraw-Hill Co., 10th Avenue and 36th Street, New York, N. Y.

'13

The Secretary, at the time notes were due for this issue, was in the midst of moving his office from Boston to Providence. He will, until further notice, be located at the address given below and all letters should be sent to him there. News from classmates regarding summer activities has not yet reached the Secretary. All are invited to contribute something so that our notes hereafter will be more voluminous. — HARRY D. PECK, *Secretary*, 1123 Hospital Trust Building, Providence, R. I. G. P. CAPEN, *Assistant Secretary*, 25 Beaumont Street, Canton, Mass.

'14

It is a long way from June to November, but this is the first issue in which our meetings of last June could be reported. The New York meetings were run under the direction of the Technology Clubs Associated, with the single exception of the class luncheons. At all of the general events Fourteen was well represented, but the maximum attendance was at the luncheon held at the Waldorf Astoria, Saturday, June 11.

The luncheon itself was held in one of the large private dining-rooms. About fifteen other classes held similar luncheons in the same room. After the luncheon we adjourned to a private parlor, and continued festivities until five in the afternoon. Between jovial moments time was found to discuss the Fifteen Year Reunion to be held a year from next June. The discussion was closed by a nearly unanimous vote, instructing the Class officers to arrange for a stag reunion to be held at some point about equally near Boston and New York, and if possible, at the River-sea Club again. The following made up the luncheon and afternoon party: Dorrance, Fiske, Peaslee, O. C. Hall, Dickson, Giffels, Duffield, Affel, Hines, Barns, Leathers, Owen, Horton, Swift, Ober, Tallman, Perley and Richmond. Most of the group stayed for the

grand All-Technology Dinner of the evening, and in addition were joined by McMenimen, Bill Warren and Monahan.

The Dormitory Fund campaign is now well under way. You have received a Class Letter in addition to those from Alumni Headquarters. May I add that it is hoped that you have already returned your pledge card. By returning your card promptly, you will greatly assist your Secretary in reducing the large amount of work required of him on a special campaign of this sort. Let us all help put across Fourteen's quota in an efficient and speedy manner.

Welton A. Snow manages to keep very much in the front. His latest achievement is that of the city managership of Miami, Fla. The following editorial in the *Miami Herald*, of August 19, tells the story of Snow's advancement so well that it is being quoted in full: "Selection of Welton A. Snow to the office of city manager of Miami appears to be a wise and fortunate one. Combining as he does an unquestionable engineering ability with a successful grasp of the building and financial situation of Miami, Mr. Snow has the ideal background for the manager of a large and constantly expanding city."

"Graduating from the Massachusetts Institute of Technology and broadening his experience while engineer for the Goodyear Tire and Rubber Company of Akron, Ohio, Mr. Snow, while still a young man, came to Miami and as a member of the firm of Sandquist and Snow embarked on a career of building, contracting and consulting engineering which placed him among the leaders of his profession here."

"The new city manager has extensive friendships in the city through his membership and active participation in the affairs of civic clubs, the American Legion and trade organizations. In spite of his impressive records, Mr. Snow is still a young man, only thirty-six, and brings to his new office all the vigor of a man in the very prime of life. On his shoulders will devolve the duty of assisting in the city's forward looking career and in carrying out the economy program of the city commission. He has been placed in charge of a \$700,000,000 business concern and should be able to call to his support all the cooperation and civic sympathy at the command of the 131,000 people of Miami."

Your Secretary suggested that with Snow as city manager, the keys of the city should be ours if we should decide to hold the Fifteen Year Reunion there. This is how Snow replied: "In regard to the Reunion, I can assure you that if the fellows will come to Miami in 1929 the city will be yours, and also rest assured that you could not choose a better place to celebrate a reunion than our magic city. It is not so far away from the center of population of our Class members, and it would make a wonderful boat trip for any one who desires to come by boat. Our rail facilities also are of the best. If you are serious in this suggestion I would appreciate further details, and I will gladly start the ball rolling from this end." How about it?

A letter from London during July tells of Dinny Chatfield's good conduct there. Dinny spent the summer in Europe, supposedly studying aviation, but we all know Dinny! — While roaming around during the summer, your Secretary had the pleasure of spending

1914 Continued

a few days each with Jimmy Judge at Holyoke, and with Porter Adams, at Thetford, Vt. Jimmy was as busy as ever running his paper mill, but did have time enough to get your Secretary into a trick car and have him hauled up Mt. Holyoke without breaking the cable. Porter Adams has been pretty much all over the country since the first of the year, making the trip by air. Pat has also collected data enough to keep many a class luncheon group entertained.

R. A. Trufant will always be remembered as the greatest freshman uniform trader of all time. We all knew he would never make an engineer and at last he has convinced himself of the fact. He has forsaken highway engineering and is now growing cranberries at Middleboro. As a diversion he formerly drove a flivver, but in endeavoring to hurdle a truck coming in the opposite direction, he did not quite clear the engine, and now "Henry" is no more. If every Fourteener will specify Trufant-grown cranberries for Thanksgiving, Russell hopes to show profit enough to enable him to buy one of Ford's latest editions. — H. B. RICHMOND, *Secretary*, 100 Gray Street, Arlington, Mass. G. K. PERLEY, *Assistant Secretary*, 21 Vista Way, Port Washington, Long Island, N. Y.

'15 "Comes the dawn," for my first year's efforts with this new job have brought forth some splendid responses from our men. Perhaps, if this rush continues, we shall have to divide this column into departments geographically and have sections for marriages and births.

On June 20 we were saddened by the death of Dean Talbot. I am sure the Institute's flag at half-mast did not nearly express our sorrow. He was a welcoming friend to us as freshmen. With his keen interest in students and his understanding of their problems he often helped us over our early difficulties. I suppose we all remember his interesting and entertaining freshman chemistry lectures and his daily white carnation. His death is a severe loss to the Institute and her men.

Louie Young, in the Physics Department at the Institute, gave me a letter from Nash Weil, written from Haverhill, Mass., saying that Ned Stelle, I, died on June 9, at Ah-Gwah-Cling, Minn. Ned failed to rally from a severe cold contracted the previous winter, which developed into rapid tuberculosis. He was buried in Greenwood Cemetery, Brooklyn, his home town, where Mrs. Stelle and his young daughter, Betty, now make their home. This is a sad loss for us, and we send our sympathy to Ned's family. I will appreciate it if any of our men who personally know his family will express the feelings of the Class to them. I am writing for the Class to Mrs. Stelle.

Howard Thomas, our erstwhile Treasurer, follows Frank Scully in ducking out from under, by passing over the class finances to me. We are in good shape so there is no need to touch you now.

Can you imagine John O'Brien of class athletic fame hobnobbing around the new Ritz-Carlton Hotel in Boston? Just so. John was one of the contractors who built the place. — Bill Kelleher, who played on John's football team, is selling Monroe calculating

machines in Boston. He has two children and lives in suburban Boston. — Archie Morrison is selling bonds for a Boston firm, and in the afternoon he is playing 80 golf. He says Gabe Hilton has been transferred to Detroit. That puts him conveniently nearer the border.

The sincerest congratulations of the Class to the following: Greville Haslam, who married Miss Dorothy Blackburn Lee, the daughter of Mr. and Mrs. Elisha Lee, on June 28 at Tioga, N. Y.; Thayer MacBride, whose daughter Jean was born on June 25 (he now has two daughters and a son); and Kenneth D. Kahn, whose daughter, Adele Katherine, was born May 15. Who is next, and when? Some Class we are growing to be!

Jim Tobey did a great job in handling the 1915 lunch at the June Reunion in New York. He wrote me that twelve of our men were there. I tried to see Jim in New York for the details, but I am sorry to tell you all that he is absent from his desk due to the serious illness of his five-year-old son, who had a hard time recovering from a dangerous mastoid operation. We feel for you, Jim.

E. S. Tisdale wrote on the letterhead of the West Virginia State Department of Health: "When in Chicago about two weeks ago we had a reunion one night consisting of Wardle, the two Holways, Sam Tolman and myself at the Hotel Sherman. Bill Holway is with the Lock Joint Pipe people traveling over the country. Alva Holway and Waddy are with Kreen and Dato, very large real estate promoters who develop tracts of land in the suburbs of Chicago. They seem to be engaged in the water and sewerage end of the work primarily. Sam Tolman has charge of operation of nearly all the sewage disposal plants for the District of Chicago, and is doing a good piece of work. I am not certain as to whether he is slated to have charge of the gigantic new plants now under construction and which will be placed in operation next week. Bill Holway now lives in East Orange, I believe, and you will probably run across him at the meeting of Technology men in the vicinity of New York." Mrs. Bill Holway verifies Bill's presence there, as she wrote Jim from her home in East Orange, N. J. "Bill has been with the Lock Joint Pipe Company in East Orange since last November. We expected to be in Cuba for them by this time, but the work has not yet materialized; however, he enjoys his new work very much and will probably continue here. Waddie is in Chicago directing the office work with A. S. Holway, who is chief engineer for Kreen and Dato, the organization that puts Mrs. Edith Rockefeller McCormick's money to work and makes more money for her. We have three children, two boys and a girl, now quite grown up, the youngest being six years old." — Alton A. Cook wrote from the United States Testing Company, Inc. — P. F. Jones wrote from Lockwood and Company, manufacturers of cocoas and chocolate, in Brooklyn. — Louis H. Zephler attended from Jersey City. He's the same old boy!

Vincent Sauchelli was unable to attend. The Koppers Company had just sent him to the Mellon Institute at Pittsburgh on a Research Fellowship. Congratulations to him. — Elmon Bowen wrote from Jones and Kirtland, Inc., New York, where he is sales manager. — Jerry Coldwell wrote that he is with Ford, Bacon and Davis, New York ac-

countants and managers. I must repeat his amusing letter next month. Because of limited space the above are necessarily excerpts, but there is one letter Jim received that I want to include in full, as it brings back our fond memories of Mary Plummer. She wrote: "I wonder if your letter of May 4 wasn't sent to me by mistake? If I can be in New York on June 11 I would like so much to see the 1915 Class, but wouldn't think of intruding at the luncheon itself. Your query of 'what are you doing and how?' no doubt refers to scientific accomplishments of which I cannot boast. It used to make me mildly unhappy that I didn't have time for chemistry, but I've gradually become resigned to the children's fractured arms and sicknesses which follow each other fairly regularly. We have bought a house in Bronxville to which we shall move this month. After twelve years of New York apartment life, I shall be happy to live in the suburbs again. In a few more years I shall have three children ready for Technology if they are so inclined." Thank you, Mrs. Rice, that was just fine. May the Institute be proud of your boys.

Mitch Kaufman recently saw Ken King, X, in Chicago. I believe he is with duPont. Mitch says he rivals Larry Quirk for leadership in Class rotundity. In Pittsburgh I met George Whitwell, who is a sales executive for the Duquesne Light Company. Associated with him are about twenty Technology men, including our own Francis Foote and George Usler, '16, who is President of the Pittsburgh Technology Club.

I hope you will all answer generously the class letter for funds for the new dormitory. I'll give you the results in the next issue. I shall try to arrange a class dinner in Boston before then so we can have a genial get-together and discuss this campaign.

Our long distance letter writing prize goes to Raymond Stringfield, who writes from Los Angeles at the Goodyear Tire and Rubber Company of California, Inc.: "The customary two years or more having passed since I last contributed an addition to the class scandal sheet, and the new Secretary being so full of pep and ambition, it may not do any permanent damage to take the old Corona in hand and exercise it a bit. As I look over the news and scandal that emanates from the various regions, it seems that for some reason there is very little escaping from Southern California in spite of the fact that there are a number of us sticking around these parts. The Technology Club here has a luncheon at the University Club every Friday noon, but the town is pretty big and our activities are so scattered that some of us don't get down very often. In spite of the fact that this is my home town, I somewhat miss the contacts that we used to have at Akron where the whole Technology gang knew each other intimately and saw each other often.

"I suppose that I may as well tell my history in brief since the Class was last officially informed as to my whereabouts or you will bawl me out. Well, we're still with the Goodyear Tire and Rubber Company, seeing that they make plenty of tires and tubes that you fellows don't wear out fast enough. After shipping me from the Los Angeles plant back to Akron and keeping me there some four

1915 Continued

years and a half as manager of service laboratories and various other jobs and titles, they decided that they wanted me back in Los Angeles as chief chemist, which was about a year ago. So here we are with the wife and three kiddies, and more than glad to see any of the fellows if they ever get out this way.

"Almost the first fellow that I ran into here was Ken Kahn, who gave up trying to be a chemical engineer about five years ago and has been building houses here since as the Kahn Construction Company. I think he knows more about houses than he did about chemistry, as he has just finished one for me and I like it pretty well. Bill Mellema is also out here, and doing a thriving business building stores and warehouses. I believe Brute Crowell and Elwin Norberg are also in town in the construction game, but I haven't seen either of them.

"Bob Haylett is now technical director or some similar title for the Union Oil Company, at any rate it's the highest technical office they have. At present I hear he is on a business trip to Australia. I attended the Chemical Society dinner at California Tech a little while back, and who should sit at the table with me but Roscoe G. Dickinson, the Class' well-known authority on x-ray analysis and similar animals, who is teaching there and daily hobnobbing with our old friend Professor Noyes and others. If Louis Zephler serves Boston baked beans, I can at least guarantee California orange juice, tomatoes and good hot chili con carne to any that will look me up either at Goodyear or at 2238 Victoria Avenue, Los Angeles."

Good Jack Dalton, who is always active and interested in Class affairs, helps further with this fine letter: "Every month the first thing I look for is our Class Notes, and just as regularly, I decide to help you fill up the column, but like the second Class Dinner of the 1926-27 season, time slips by and nothing happens. Whether this is due to any well known modesty or sheer laziness and procrastination I leave to more impartial judges to decide. Every letter I ever wrote to Frank before you took over his mantle started with the statement that I was still with the Liberty Mutual, but usually it was in some different part of the country. I am still with the company, with, I hope, no immediate chance of severing the connection; at least I'll stick as long as they will let me. My stay in Boston happily appears to be apparently permanent, so much so, in fact, that for the first time I am presuming a stake in the city of Newton. When I have the house at 34 Morse Road, Newtonville, which is promised for delivery September 1, you will have to come out and pay us a visit. This invitation is extended to all of the boys who may be in or passing through the city. I spent a very delightful few hours with Charlie Norton and Mrs. Norton a few weeks ago, and to them an especial invitation goes out to drop in on us. It is funny with all the men in the Class here in Boston and in the other cities that I visit from time to time, that I see so few. About the only one I see regularly besides Stuart Guernsey, who I believe spurns the ranks of '15 now for another class, is Easty Weaver. By the way, Easty, in some of his dangerous laboratory work the other day, got splashed with some acid with an awful kick, and was pretty well burned

around the face, although it didn't change his even disposition a bit and has now healed completely. He really had a very close call to a serious injury. I can't think of any more except a little blast for Vic Willis for not giving me a ring at the office when he was in Boston, as he threatened to in his letter in the last Review." That's the spirit, Jack. I am very sorry for Easty Weaver, as I was in a similar accident which laid me up in the hospital a month, and resulted in my having a new face and neck grown on under a wax mask. It was in 1917 and was the first major case using the then new wax treatment.

Even with radio, television and Pullman smoking compartments for dispensing news, Allen Abrams must have a seventh or eighth sense which permitted him telepathically to send in the following excellent letter. To appreciate this you must know the facts. His letter was sent me after my May notes went in, but before the May issue was printed, so you see Allen had no intimation that Hy Waterhouse was paging him in this column, or that, further, he was the first to answer my plea last spring for a monthly letter. My deeper thanks to him for not needing the prompting. Really, it seems to me we can get a lot of fun out of this by working together in securing these enjoyable letters from different parts of our country. Allen's letter from Marathon Paper Mills Company, Rothschild, Wis., follows. Note the lines he gives us on so many other men: "Upon receipt of The Review this morning, I decided it would be a good time to carry into effect the promise to send you a few notes. You asked Arthur Ball to tell something about himself, but, knowing of his modesty, I will pass on some information for you. If you saw Douglas Fairbanks' recent picture 'The Black Pirate,' you may have noted the name of the color photographer as Arthur Ball. In a recent letter he said that they were working on Fairbanks' next picture, and I judge that the colors will be even better than in 'The Black Pirate,' and certainly that was a beautiful piece of work. In New York not long ago at a paper meeting, I saw Ted Spear, who, as you probably know, is superintendent of the Oxford Paper Company — a very responsible position with a fine company. Also I saw Jack Little, who is with the Western Electric Company, and Phil Codwise, who is with the Beaver Products Company. In Richmond recently, I ran into Frank Hall, now chief chemist at the Port Arthur works of the Texas Oil Company, and Alton Cook, who is in a similar position with the U. S. Testing Company in New York. Ken King is in this vicinity occasionally. You may be interested in knowing that he has just recovered from a serious illness and has lost considerable of the *avoirdupois* gained during the war. Ken is quite a prominent man with the duPont Company in the dyestuffs end. While we are in a rather out of the way place for Technology men to be passing through, we would be very glad to have any stop in when they are up this way."

I agree with you about "The Black Pirate," which I thoroughly enjoyed, and I am pleased to know one of our men was instrumental in producing such pretty results. Fairbanks' new picture will surely be a reminder of Arthur Ball. — It has recently come to my attention that McCeney Werlich

is at the American Consulate, Riga, Latvia, Russia (Europe, I suppose). There is the long distance traveler of the Class. What an interesting experience he could write us. So could a lot of you other men. Why not? Thanks very much to you all who have so kindly made this the biggest, and, I hope, the best column we have had. I wish I could write you all. At any rate you've made me feel awfully good and I appreciate your interest. Let's keep it up. — AZEL W. MACK, Secretary, 377 Marlboro Street, Boston, Mass.

'16 No notes have been received by The Review Editors from the Secretaries of this Class for inclusion in the November issue. The Secretary received the usual notification that copy was due, accompanied by such news as had been compiled in The Review Office. Members of the Class having news or inquiries should address them to Russell H. White, Secretary, Kardex-Rand Sales Corp., 118 Federal Street, Boston, Mass., or to Charles W. Loomis, Assistant Secretary, 7338 Woodward Avenue, Detroit, Mich.

'17 No hack writer could do justice to the Ten Year Reunion of the Class. Fortunately there is no real need for more than a chronicle of events, for the seventy-five who were present comprise most of those who will read these notes.

There have been bigger, noisier, busier Technology reunions, but certainly none happier. The large turnout served one splendid purpose; it made it possible for several congenial groups to form from time to time, and one activity could be followed without sacrificing others. Even while Cochrane made the golfers envious, Jack Wood took a lubber crew boating, and enough athletes were left over to fill the Eastern Yacht Club tennis courts. In the evenings Bob Marlow demonstrated New York bridge without stopping other so-called games of chance.

Leon McGrady was chairman of the Reunion, and to him goes credit for a carefully planned and smoothly operated program that left nothing to be desired. Brick Dunham corralled the loose cash in the same way, with effort and skill more real than apparent.

Dick Whitney made it possible for us to be at the Corinthian Yacht Club at Marblehead; near, but not too near Boston, with golf, yachting, tennis, baseball, billiard and card rooms, excellent sleeping quarters, a good chef and Jerry. Why more class reunions are not held there is hard to understand, unless other classes lack Whitneys and McGradys.

Bill Eddy reported the impressive opening of our Tenth approximately as follows: "On Thursday, June 2, Professor Lobdell arranged a class luncheon at Walker Memorial and invited several other notables; among them was President Stratton, who welcomed the Class officially. Dean Burton gave us a very pleasing, brief talk in which he declined to divulge any of the confidential records of the Dean's Office concerning Lobdell or any of the other notorious members of the Class. He then took a few cracks at the faculty members who were at the luncheon, although not indulging in any personalities in spite of

1917 Continued

the presence of a number of heads of departments. He announced that the ground would be broken that week for two new dormitory units, that four new dormitory units would be constructed this season, that the State of Ohio and one or two other States have planned to construct dormitories as state units. Harry Tyler responded in his customary logical but humorous manner. Little Mac, as was to be expected, made an excellent toastmaster."

Following the luncheon, the members walked to the main building of the Institute, where they hung upon the wall on which the names of those who lost their lives during the war are inscribed, a wreath to which a card was attached bearing the names of our classmates who are recorded among them.

Thursday afternoon many went directly to the Corinthian, others went via Ted Bernard's home, and a few waited until the next morning before coming down. Dud Bell and Phil Hunt—well, anyway, Friday started with golf and tennis at Tedesco Country Club and luncheon there. In the afternoon there was golf, boating, bridge, and gossip fests. Friday evening had no scheduled program, but was as enjoyable as any time at Marblehead. Two well-known members were dragged to Pops by their wives, but everybody else had a good time.

On Saturday there was a little golf and tennis, and a wild baseball game, won by an all-star team picked from Eddy's Braves, McGrady's Giants and the umpires. Lobdell filled the bleachers.

At the dinner Saturday night Johnnie DeBell appeared in person and insisted on delivering a resignation he had previously given verbally, and by mail, without effect. Whatever Johnnie's reasons for laying down his robe of office, it was done, and Leon McGrady was unanimously elected President in his stead. Mac's protests were not heeded. On motion by Ham Wood we added to that breed of cats made notorious by Lobdell—the Emeritii—and John M. DeBell is now officially President Emeritus in Perpetuity, whatever that means.

Again Mac acted as master of ceremonies, and for once we had a dinner without long speeches. Beautiful but brief presentation talks were made by Whitney and Bell, and a love nest hammock exchanged for a unique loving cup. Later a prestidigitator prestidigitated, and a song or two was sung, and there was much talk and more merrymaking, but that was the framework only, and if you were not there far be it from me to try and describe what made that evening and all the rest memorable. Sunday noon three or four 1912 engineers came into the Club with their wives and had what should have been a reunion. What makes the difference I don't know—but thank your stars you're on the lucky side of the dividing line.

The Review Editors protested when there appeared danger of all seventy-five names getting into these notes—yet they ought to be here, and some comment recorded of the contribution made by each, to say nothing of the telegrams received from Texas and other foreign points. Mac's success in running the Reunion was in part due to his bringing everybody into action, not excepting Butterworth at the piano or Nig Sewall at the Canuck dialect.

The Dunning Distance Cup rested among the Corinthian trophies during the party and was won by Frank Butterworth from Marion, Ind. It will be recalled that this coveted reward of long travel was won in 1922 at West Swanzy by Albert F. Hegenberger; last August it was again presented Heggie with solemn ceremony when twenty-five Seventeeners gathered at the Engineers Club to honor the first man to fly the Pacific to Honolulu. Lieutenant Hegenberger has been feasted and fêted, bemedalled, cited and Rotaried. The Boy Scouts made him an Eagle Scout, than which there is no Scouter, and—whisper it—he is now an honorary member of the G. A. R. A full account of his contribution to aviation appears elsewhere in *The Review*; read it. The little dinner we gave him was an informal jolly affair, and more than twenty of those present were beautifully sold when Ted Hedland, Aviation Editor of the *Boston Post*, was introduced initially as Captain Courtney, who had just flown from England. Congressman Gallivan, from Hegenberger's section of Boston, gave a sample of sidesplitting spellbinding. Heggie gave a most interesting description of his experiences, and then joined in an even more interesting general discussion.

Francis Goodale packed his winter underwear and sailed on September 1 for a sweet job in Peru. He is to be on a sugar plantation run by W. R. Grace, Inc., at Trujillo, which is near the seaport of Salaverry. The outfit produces 40,000 tons of sugar per year, and he ought to feel right at home (it is in Latitude 8° South), for after the war he spent three years on a plantation in Hawaii and then from 1924 to 1926 was chief engineer of another at Silay, Occidental Negros, P. I.

Dudley E. Bell, of the Bell Nutter Manufacturing Company, 10th Street and Allegheny Avenue, Philadelphia, Penna., has succeeded Jerome G. Harrison, '06, as President of the Technology Club of Philadelphia. — R. T. Lyons, who is in the oil business with the Skelly Oil Company, reports that things have been going very well, and the work he is now doing is very interesting. He is in charge of the land and geological work in West Texas and Eastern New Mexico for his company. This is now a very active area with large producing possibilities. — Richard Otto Loengard was married to Miss Margery Borg on September 8 at Irvington-on-Hudson. — RAYMOND S. STEVENS, *Secretary*, 30 Charles River Road, Cambridge, Mass.

'18 It was just a year ago this time, I notice, that Ray Miller took over the note writing for the Class of '18, but now that he is so busy in the insurance game, located with Moore and Summers at 97 Milk Street, he has asked me to take it over for a while at least. I will do the best I can, but I must ask you fellows to help me out and send in the news so we can have something to show.

While on a trip into northern Vermont who should Ray Miller see but Walter Biggar, who is agent for the Fuller Brush people, located in Burlington. He appeared decidedly happy and passed on the good news that, on July 30, he married Ruth Jane Ball of Randolph, Vt. They are at home at 479 North Street, Burlington, and if any of the fellows

are up that way they would be glad to see them. Congratulations, Walter!

In June came a letter from Clarence Bassett, but it was too late for *The July Review*. He tells us that since the first of the year he has been located in Scranton, Penna., at the Crew-Levick Company. (Excuse me, Clarence, if I am getting things a little mixed, because I have not seen your letter and it is just from a phone call that I have your news.) Not long before writing this letter Clarence saw Harold Sturtevant, who was up that way trying to sell some mining machinery. We hope you succeeded, Harold. Another '18 man who appeared in the anthracite district was Sam Barron, whom Clarence saw by chance. Sam is now in the construction business on his own hook in New York. Here's hoping business is good in your direction, Sam.

About a year ago our friend, Don MacArde, began working for the Beacon Oil Company. He decided to start at the bottom and work up, and from what I last heard he was doing very well. His home address is now 584 Riverside Avenue, West Medford. If anybody ever hears anything of him I wish they would let the Class know. He seems to have dropped out of sight.

While abroad this spring I had the pleasure of seeing our old friend, Jule Avery. He was passing through London on his way home, but we had a chance for a few minutes' chat. Jule, as you all know, is with the Electric Furnace Products Company and has been located in Norway for the last few years with only an occasional trip to America. But, things have changed. Now he has a real position and will probably spend about half of his time in this country with offices in New York. He returned in August to this country, but next month he starts back to Norway again. He was looking very well but, like many of the crowd, he has gained considerable weight since the days at the Institute. Let's hear something from him again.

I was very sorry not to see the Class of 1918 take more of an interest in the Technology Clubs Associated Convention in New York in June. As far as I could see, there were only a very few who really registered at all. Tom Kelly happened to be in the registration line just ahead of me and we were on the lookout all the time for familiar faces, but we did not find any. There is no use in going into the details of the Convention as that has been all written up in *The Review* before, but I will say this, that only two more appeared for the trip up the river.

The best showing that was made during the Convention was at the luncheon at the Waldorf on Saturday noon. Twenty-four 1918-ers were at their table. I am sorry that I cannot give you the list, but perhaps Ken Reid or Malcolm Eales can send it on to me and it can be kept in the records. I, for one, saw some of the fellows whom I hadn't seen since back in the old days. Of course, the fellows around New York do not get to Boston and, in the same way, the Boston men do not get to New York. At the dinner in the evening one whole table of twelve or fourteen was taken up by our Class, so that wasn't so bad, as that is about the same number that we get out at the January Alumni Dinners in Boston. As far as I could see, a good time was had by all.

Speaking about the New York luncheon

1918 Continued

makes me think. The topic of the Ten-Year Reunion was brought up at that time. Alan Sanger had, shortly before that, seen Bob Van Kirk in Chicago, and Bob thought that things should be started this fall regarding the Reunion. He hopes to come on for it at any rate. The New York crowd are very anxious that it should not be a stag affair, as one of the fellows said he was always cordially invited to his wife's college reunions and he wanted his wife to be able to attend his. I know that some wives have been looking forward to next June for five years, and, as I remember it, at the Fifth Reunion at Scituate it was voted that the women folks were to be with us again at the Tenth. Here's hoping the committee will take this all into consideration.

One more suggestion on the Reunion. What would the fellows think of having it somewhere along the Connecticut coast, or even over on Long Island somewhere — anyway, about halfway between New York and Boston? There is no reason why it should be in or around Boston all the time, and I, for one, think that we would get more there if it were nearer New York than the east coast of Massachusetts. I hope within a short time to have some definite news on this subject when the committee gets down to real work.

Come on, fellows, send in the news about your vacations and what you have been doing recently. Send the news right along to me and I will see that it is sent to The Review. Let's keep up our good work and have at least something in every issue. — GRETCHEN A. PALMER, *Secretary*, 148 State Street, Boston, Mass.

'19 No notes have been received by The Review Editors from the Secretary of this Class for inclusion in the November issue. The Secretary received the usual notification that copy was due, accompanied by such news as had been compiled in The Review Office. Members of the Class having news or inquiries should address them to Paul F. Swasey, *Secretary*, at 99 Washington Street, Boston, Mass.

'20 Well, all we have got to say is "you missed something" if you weren't one of the small but fine body of men who rejoined in reunion on the fair shores of Pine Orchard, Conn., last June. It is pretty cold potatoes to render a history of the doings at this remote date, but we cannot refrain from mentioning a few of the highlights such as Bud Cofren's grand entrance at three o'clock Sunday morning; the successful arrival of Gee and Somerby's land yacht, eluding both hijackers and police; and of Dan Harvey's ocean yacht bearing the priceless supercargo of Bob Patterson and Tony Anable; the extraordinary demolition of Scotty Well's nice new straw lid; the masterly golf of champion Ted Hobson; the soul-stirring slashing of those demon doubles duos, Abbott and Nash, also Burnham and Bean; the complete rout of that hitherto unbeatable and much vaunted bridge team of Gibson and Clark, who, in the finals of tournament play, were set six redoubled by those mastercraftsmen, Ryer and Bugbee; the cheer leading and automobile driving of Buzz Burroughs; the

appearance of Buzz and Bud in borrowed bathing suits (we believe the owners were perfect thirty-sixes) — but why go on, suffice it to say that every single man present promptly and without urging signed a cast iron, legally binding pledge to attend our next Class Reunion. Here is a list of the signers: Dick Gee, Buck Clark, Jim Gibson, Ev Freeman, Ed Ryer, Bob Patterson, Tony Anable, Jack Coyle, Larry Burnham, Ted Hingston, Karl Bean, Phil Somerby, Don Dowling, A. D. Higgins, Art Littlefield, Ted Hobson, Vaughn Byron (way from Pennsylvania), Louis Harris, Norrie Abbott, Johnny Nash, Scotty Wells, Bud Cofren, Buzz Burroughs and Harold Bugbee.

The long interim has brought forth some interesting and important marriage and birth announcements. Ed Ryer has at last seen the light and hit the trail. Miss Elizabeth B. Hutchinson became his bride on September 10 at Duxbury. The Ryers will make their home at 5 Craigie Circle, Cambridge. Elbridge Wason was married August 15 to Miss Ruth Isabel Ringland. Mr. and Mrs. Wason are now at home at 8 Avalon Road, Waban. John Nalle was married to Miss Frances Bain at Newburgh, N. Y., on July 28. They will reside on Long Lots Road, Fairfield, Conn. Ed Burdell was married last April at Melrose, Fla., to Miss Emma Mathiasen. Ed Bragg was married on September 3 to Miss Betty Hilda Brown. They will make their home in Scarsdale, N. Y. To all of these the Class of 1920 collectively extends warmest and sincerest congratulations.

Perk Bugbee's second son arrived last June, and he is already a lusty youngster. It is to be hoped that Alan Campbell Bugbee will inherit his uncle's good looks and brains. George (Pierpont) Morgan announced last April the birth of George (Pierpont) Junior. This is good news!

Some months ago I received a letter from Benjamin West informing me that he is now with the Brooklyn Edison Company, and is living at 664 Washington Avenue, Brooklyn. I also was glad to hear from Archie Cochran, who wrote as follows from 1503 Fourth Avenue, Louisville, Ky.: "I have been making tin foil ever since graduation and enjoy the work very much. I began work with a company when it wasn't quite a year old and fortunately it has grown by leaps and bounds. I now hold the position of production manager which is right in line with my course work. Occasionally I run into some of the old bunch but not often. In case you know of any that are coming down this way, tell them to look me up. I am still single so everything is perfectly satisfactory."

Just before these notes were mailed I had the pleasure of spending an evening with Buck Clark at Hartford where he is located at present mopping up the millions in the shingle business. With the holocaust of the Reunion in mind I undertook to give him some instruction in card playing with notable results. — HAROLD BUGBEE, *Secretary*, 9 Chandler Road, West Medford, Mass.

'21 Greetings! Vacations are over and we are back on the job. Thanks to you, there has been some accumulation of material for publication during the summer. The

Review Editors say to be brief so here is an attempt.

Professor C. E. Locke sent the following clipping from the July 30 issue of the *Engineering and Mining Journal*: "On July 21 the Department of State received a telegram from the American consul at Chihuahua, Mexico, to the effect that an American citizen, Russell Johnson, superintendent of the mine of the American Smelting and Refining Company near Parral, was kidnapped by bandits. The department was informed in a later telegram from the American *charge d'affaires* at Mexico City, that on July 20 he addressed an urgent note to the Mexican foreign office requesting that steps be taken at once to secure the release of Russell Johnson and the punishment of his captors." Later word has not been received.

Stuie Nixon, XV, was in the office the other day while on one of his sales tours for the Continental Motors Corporation of Detroit and Muskegon, Mich. Stuie covers a large territory including much of the Middle West, New England and Eastern Canada selling engines. He said Herb Thaden, II, left the Aircraft Development Corporation in Detroit some months ago and is now Vice-President of the Thaden Aircraft Corporation, with headquarters at San Francisco, further that Spike Herman, II, had gone to Europe for six weeks or so to buy up some processes.

John M. Sherman, X, wrote that he and Miss Augusta M. Roberts, daughter of the Rev. W. D. Roberts, rector of St. John's Episcopal Church of East Boston, were engaged in June. He received his M.B.A. from the Harvard Business School in June and now is with the Efficiency Department of the Simplex Wire and Cable Company, working with K. B. White, '20.

Early this summer when in Pittsburgh I saw Francis B. Kittredge, I, with his wife and youngster. Frank is head of the Duquesne Slag Products Company, Diamond Bank Building, Pittsburgh, which company contracts for the disposal of slag. I tried also to see Art Turner, I, and Art Skilling, I, but both were out of town. — Herbert DeStaebler, XV, is with the Aluminum Company of America, Boatmen's Bank Building, St. Louis, Mo. — Some time ago your Assistant Secretary, C. A. Clarke, VI, left the Northern Electric Company in Montreal to join the Victor Talking Machine Company, Camden, N. J., to take charge of the Standards Department of the Department of Development and Research. The head of that department is J. P. Maxfield, '10.

On June 18 Miss Julia MacGregor McGuire of West Newton, Mass., and Francis L. Blewer, IX-B, were married. After October 1 they will be at home at 419 East 57th Street, New York. Frank is in the investment business in New York. — On May 28, Miss Margaret McCalmont Humphrey and Richard P. Windish, XV, were married in Saint Thomas' Church, New York. Their home is at 52 Gramercy Park, North, New York. — Miss Eunice Elizabeth Brooks and Simon W. Freeze, IX-B, were married June 30 at the Highland Park Methodist Church, Dallas, Texas. After September 15 they will reside at Fort Worth. — A romance of X-A has resulted in the announcement of the engagement of Miss Rebecca Berger of Bangor, Maine, and Solomon M. Silverstein on Septem-

1921 Continued

ber 1. The wedding date is set for January 1, 1928. A good way to start the new year. Saul is still with Bigelow, Kent and Willard of Boston, in charge of their Chemical Research Division. Joe Lurie, X, is his right-hand man.

We have also noted in the Boston *Evening Transcript* that Miss Anne Belknap of Boston and Palmer Scott, XIII, are engaged, and that Miss Hester Coakley of Gloucester and A. Cameron Hayden, II, are married. Hayden is an instructor at Drexel Institute in Philadelphia. They live at Stratford Court, Lansdowne, Penna.

Ralph L. Rutherford, XII, is the author of "Geology Along the Bow River between Cochrane and Kananaskis, Alberta," which was sent us by Dr. Allan, Director of the Geological Survey Division of the University of Alberta, Edmonton, Alberta. — A. Ilsley Bradley, II, of the Graybar Electric Company, 1010 Rockwell Avenue, Cleveland, has been with these people for three years doing sales work. Bradley says: "No I am not married yet, however, I will before I am thirty. I have a few prospects now and I am eliminating them slowly either by my choice or they are marrying other men. I saw Pete Jayme, III, about a month ago. He is very much married and living in Pittsburgh. As near as I can make out as soon as one gets married one forgets all their old friends so that is why I am so reluctant about taking the step. We have 200 Technology men in town and they have all representative positions. Speaking as Secretary of the Technology Alumni Association of Cleveland, if any '21 men get to Cleveland, I hope they will look us up. My office telephone is Superior 2400, so if you come to town give me a ring."

John A. Scarlett, X, for five years has been doing metallurgical work in the assay office of the United Verde Copper Company, Clarkdale, Ariz. For a short time, however, he was with the Sodium Products Corporation at Campe Verde, Ariz. — R. A. St. LAURENT, Secretary, 431 Oliver Street, Whiting, Ind. CAROLE A. CLARKE, Assistant Secretary, Department of Research and Development, Victor Talking Machine Company, Camden, N. J.

'22 No notes have been received by The Review Editors from the Secretary of this Class for inclusion in the November issue. The Secretary received the usual notification that copy was due, accompanied by such news as had been compiled in The Review Office. Members of the Class having news or inquiries should address them to Eric F. Hodgins, Secretary, 8 Arlington Street, Boston, Mass.

'23 What could be more disconcerting than, while planning what to do with a few more summer week-ends, to receive a letter from The Review Editors stating that notes for the November issue are due. Well, time and The Review wait for no man, so it behooves us to get busy at once. It happens that the summer months have been rather quiet this year and consequently our space in this issue is not very large.

Here is one notice, however, that will interest everyone vitally. When June, 1928,

rolls around, the Class of 1923 will have been struggling on its own in this old world for five hard years, and this fact, of course, calls for some sort of celebration. Plans are now under way for our Five-Year Reunion, and before many weeks pass, you will be in receipt of the first definite information regarding it. Remember this is going to be a real reunion, and you can't afford to miss it, so plan accordingly.

The summer would not be complete if it did not bring forth its quota of weddings. On June 28 Frances Greene Barton and Ray Meekins were married in Buffalo. Then in August we received the announcement that Dorothy Irlene Charles was married to Harold Bertram Gray on August 4 at East Saugus, Mass. Course II men take note. The most recent announcement received was in the form of an invitation to the wedding of Miss Alice G. McKinnon to John Sullivan on August 8 at Watertown, Mass. We wish to take this opportunity to congratulate our happy classmates. Then there is another to whom congratulations are due. The engagement of William H. Harding to Miss Martha A. L. Burr was announced last March.

Passing down School Street, Boston, the other day, the Gensec noticed a little yellow store which he had not seen before. In the window was a sign, "Come in and get acquainted with our paint expert." Then above the door it said, Norfolk Paint and Varnish Company. Looking in, whom should we see pacing around in his six by eight stall but Eddie Heap. It appears that Eddie, after learning all there was to know about paints, aspired to selling them, so his company gave him charge of this little store. This, however, did not satisfy his ambitions so he was booked to hit the Pullmans the following week, using Springfield as his base.

Another miner heard from is Ramon Abarquez. Ramon has been in charge of the metallurgical work of the Division of Geology and Mines in the Bureau of Science at Manila. Much of work is of a routine nature and consists of ore and bullion assays, ore testing, smelting and refining bullion and the extraction of precious metals from jewelers' waste. Occasionally he has to go out on a field trip.

We received a very artistic announcement the other day from Marvin Eichenroht and Bartlett Cocke. They have established themselves as architects in San Antonio, Texas. We hope they prosper. — ROBERT E. HENDRIE, General Secretary, 12 Newton Street, Cambridge, Mass. H. L. BOND, Assistant Secretary, 40 Central Street, Boston, Mass.

COURSE VI-A

Something seems to indicate that the members of the Course surely do believe that two can live as cheaply as one. Or else why all of P. B. Alger's interest in Rochester — answered only by an announcement card received in June. Or why is Bob Henderson so interested in Boston while his headquarters are in New York? Answered again by a box in the *Transcript* announcing the engagement of Miss Marjorie Frost of Boston to Robert H. Henderson. Miss Frost graduated from Mt. Holyoke this June. Dame Rumor also comes around to whisper in our ears that Charlie Koch, the debonair, has an affair of the heart of some magnitude out in Schenectady.

Further particulars are lacking — watch for our next issue.

Such are the preliminary steps. For full completion we have only one item to record. That is the marriage of Miss Helen Parker Power to Hugh Spencer on June 25. The wedding took place at the Somerset in Boston and, in Hughie's own words, it was a "gala affair." Jerry Carpen was Hugh's strength and support during the ceremony. The ushering staff consisted of Don Spencer, Don Knight, '22, Charlie Koch and your erstwhile Secretary. Mrs. Spencer attended Wheaton College and is a member of the faculty at Dana Hall School as a teacher of the violin. The couple are engaged in building a home designed along strictly engineering lines at "Chiltern Hundreds" in Weston.

Other news we have but little. Freddy Travers was hardly settled in New York before the American Tel. & Tel. Co. transferred him back to Boston. Needless to say, it was a move quite pleasing to both Freddy and Mrs. Travers.

Your Secretary begs to call attention to his new address. Having supposedly learned all about the generation of power, he is now trying to uncover the secrets of the distribution of power here in Jersey City (than which even Lynn, the City of Sin, is no worse). And now let's have a letter from each of you, and thus a big column in the January issue. — JOHN H. THOMPSON, Secretary, 275 Harrison Avenue, Jersey City, N. J.

COURSE X

The other half of the department, Harold Cotter, having skipped off to enjoy a belated and presumably deserved vacation in that Happy Hunting Ground of the Practice School at Bangor, Maine, it devolves upon us to scratch up a few course notes. Even such a dreaded duty becomes a pleasure, even a life saver, when you're hung up over Sunday in a place where you can't buy even a postcard on week days and have nothing to do but read the cheerful bulletins in the mill time office which end up with "and a check for this amount was sent to the widow." That describes Piercefield, N. Y.

Some time ago we asked for news of Tsung Be Tsang. A congratulatory cablegram from him overtook us on our honeymoon last May, so we presume he's still alive. Called on Joe Preston last month and learned that he's about to join the bushmen in Australia for his company. Karl Luger drifted into Glens Falls with the information that he is with the Aluminum Company of America and is stationed at Albany. Karl has grown at least four inches since leaving the Practice School and is married. He claims he married the picture we used to see on his dresser in the Buffalo Clubhouse. Luger had quite a story to tell about how he has ingratiated himself with the gentlemen of the Albany Police Force. Get him to tell it if you run across him.

There were only a few replies to the call for four bits for the Athletic Fund and cards have just been sent those from whom there has been no answer. When you mail in your check, send it to us with a few lines about what you have been doing so we can continue to have some course news. — H. F. COTTER and D. S. DAVIS, Secretaries, Bureau of Tests, International Paper Company, Glens Falls, N. Y.

1923 Continued

COURSE XIV

Notes for our course have been entirely absent from *The Review* now since Frank Gentry resigned the arduous duties of Course Secretary because of other demands on his time. That was a long time ago, and your new Secretary wondered why it took such a long time to get a new one. He found out quickly enough when in an initial burst of zeal he broadcasted a tearful appeal to the members for news to start him off properly and received exactly three replies. As a consequence most of the news below was gathered by Gentry and turned over to the present Secretary as a present.

Ducote has resigned his position with the Public Service Company of New Orleans and is now an electrical engineer for Stone and Webster. He is located at the Boston office. Oscar Perkins has resigned his position with the American Machine Foundry Company and is now in the Insurance game. He can be reached at Room 727, 315 Pearl Street, Hartford, Conn. We have heard that Howard Cobb has recently plunged into matrimony, but we have not heard from him so do not know the lucky girl's name. We just received a letter from Ben Drisko with "Drisko Farm, Addison, Maine" stamped on the envelope and for a while we thought Ben had gone to tilling the soil, but no, his new waxed mustache would hardly harmonize with overalls and rubber boots. He was merely spending his vacation in the country. He is a statistician for W. and J. Sloane, interior decorators of New York. He is living on Long Island some place but he has not given us the address. We received a very interesting letter from Sherwood Brown. He is with the Shelloid Company at Greenville, R. I., in charge of all the research, testing and production. His duties also include taking the boss's children to church (he says he just takes them, never goes in himself). It sounds like a full time job. In fact he advises us that he works seven days a week as well as several nights. But he gets every Saturday afternoon off — after five o'clock. He says he's a hard-boiled bachelor, but we've heard that stuff before. Miss Dorothy Muriel Ware has announced her engagement to Mr. David W. Skinner. We congratulate Dave. He is still with General Electric at Lynn, Mass., and at last reports was playing around with Tungar bulbs. G. G. Kearful was married last Christmas Day to Miss Viola Mae Simonds. We received a letter from Bat Hauelsen. He says that he thinks he deserves a medal for answering so promptly and we agree with him. Bat worked for a while with a by-product gas company but soon gave it up for a position with the Metals Protection Corporation of Indianapolis. He is now chief engineer, chief metallurgist or what have you for that company. He finds the work most interesting, but says he has to work sixteen hours a day. He is still driving his old Stutz. We think it's time he pensioned it off and let it spend its declining days in leisure in some nice clean garage. Frank Gentry has been spending the time he should have used on these notes composing other gems of literature. Most of you probably read his article, "Engineering, Legendary Kingdom of Midas," in *The Tech Engineering News* last winter. He also presented a discussion on the "Heat of Formation of Carbon Tetrachloride" before the

American Electrochemical Society. We hear he is soon to publish a book.

That concludes the dope for this time and it is a lot more than we will have next time unless you fellows get busy. — JOHN W. SANDS, *Secretary*, 158 Wardwell Avenue, Westerleigh, S. I., N. Y.

'24 The item in which the greater part of the Class is interested is the part 1924 took in the New York meeting in June. "Greater part" is specified to omit those who were there. Your special correspondent was there on Saturday and missed the boat ride and the business sessions. Saturday was the big day of the meeting, however. Your Gensec took an early train from Hartford in the morning, arrived in New York and took a Fifth Avenue bus to Washington Square. There he started to look for the Boboli Gardens, and after quite an extensive search, and partly by process of elimination, located it. There was a goodly crowd of '24 men there. The ring leader for the day was Greg Shea, who was master of ceremonies and salad orator. In that connection every course seemed to Greg to be the salad course because he was continually regaling us with stories. The long distance prize, if there had been one, would have gone to Simonds, who came all the way from Pittsburgh. About 4.00 in the afternoon we adjourned to meet again at the Waldorf-Astoria for the big banquet at 7.00. We had two tables or more in the rear, but we attracted attention by leading off the cheering and more with the cowbell, the honorable symbol of the Class. Those signing the table card, which is now in my possession, were G. W. Knight, Greg Shea, Jack McCoy, Hal Donovan, Bill Correale, Henry Simonds, Edmond Bruce, Bill Robinson, Bill Coleman, Fred Hungerford, G. Y. Billard and G. F. DiSomma. There were more of the Class there, but I was so busy having a good time that I didn't get their names. I was to take a midnight train back to Hartford, but finally stayed with Bill over night and actually came up about 8.00 Sunday night. Even then I was strongly urged to stay over another day and see Lindbergh.

I have the following announcement: Mr. and Mrs. Frederick Dahlgren have the honor of announcing the marriage of their daughter, Ellen, to Mr. John Alden Buckler on Thursday, June 23, at Glen Ridge, N. J. They are now at home at 288 Park Avenue, East Orange, N. J.

For my part, I should like to voice the appreciation I have for the assistance which Professor Locke gives the General Secretaries through *The Review* in furnishing us with information regarding various Alumni who may be in our respective classes. Every month I receive one or two such bits of information. This time I have an announcement of the marriage of Helen Margaret Dorsh to George Henry Holmes at Butte, Mont., on June 22. They are now at home at 1629 South Warren Avenue, Butte, Mont.

There are also the following notes from a personal letter to Professor Locke: R. R. LeClerc is now located at 13 Queen's Gate Gardens, London, S. W. 7. He has been doing prospecting work in Africa for two or more years past, and last December he returned to England from a very tiring expedition on the

Rhodesian borders, as a result of which he was taken down with blackwater fever and required almost six months for recovery. Although his next move is undecided he is hoping to return to *Technology* in the near future for further study and research. — H. G. DONOVAN, *General Secretary*, 775 Asylum Avenue, Hartford, Conn.

COURSE X

Several members of this tribe went to church this summer. The first was Sargent Heath. He was married on June 11 to Miss Marion Hartley. The event took place in Calvary Episcopal Church at Pascoag, R. I., and Hood Worthington came up from Wilmington to be the best engineer. After analyzing the White Mountains, they settled in Mapleville. If any of the old crowd gets up that way Sarg says he will be glad to see them.

Miss Irma Rita Bauer and John Theodore Ackers were married June 25 in Brooklyn, N. Y. They are now to be found in Bellair, Long Island. We tried hard to get to that wedding, but that day was the first of the fourteen days we spent in bed. The Bell Laboratory must be a good place to work for. — On August 17 away down in Rockland, Maine, Warren Hill and Miss Kathleen May Snow were married. Their engagement was announced last New Year's Day. They will live in Adams, Mass.

Bob Mackie and Ed Hewitson's sister, Miss Sylvia Elizabeth Hewitson, were married September 6 in Megansett, Mass. These folks will live in Chicago, Ill. Now we know where Bob used to go on those week-ends.

And now for a lad who says he is still single. Bob Foster is in the Boston office of Lee, Higginson and Company as a bond salesman, and has been since 1924. — Lon Gregory is some expert witness says Doc Lewis. The Doc and Lon were on the same side, both for the Phillips Petroleum, in a patent case tried in Wilmington last spring. Greg broke his arm cranking an airplane a couple of months before the trial. But it is all well now, for he was able to write: "Herb Loring left our company about a year ago, and when last heard from was in San Antonio, Texas, with the Surface Combustion Company. I know why you don't hear from Phil McGrath. I see him quite often when I am down in Shreveport, La., and, son, have you seen those southern girls? Don't stay in New York. Go South, young man, go South! For beautiful, sensible and sweet girls the South can't be beat. Phil is working for the Loreco Refining Company." — We saw T. C. Wang three times this summer, and the last time we had some of the best chop suey. He is working for his fifth employer now, the Federated Metals Corporation, making rouge. The other Wang is in China making ammunition. — WILLIAM B. COLEMAN, *Secretary*, 40 Morningside Avenue, New York, N. Y.

COURSE VI

The summer months have brought to light very little news of Course VI. One wedding announcement, a few phone calls and some occasional chance meetings save us from a "no news" report for this issue of *The Review*.

While it is probable that more than a few of

1924 Continued

the boys have been married since last spring, the only announcement received was that of the marriage in Wakefield, Mass., on September 10 of George Matthew Nash to Miss Winifred LeNoir. Congratulations, Matt, together with our thanks for the announcement. We hope it will be followed shortly by a note telling us where to find you this year.

A phone call from Bob Daily when he was in Boston during the summer was a pleasant surprise. Bob still works with the Westinghouse Company in Pittsburgh and may be found after work, still single, in Irwin, Penna.

— The Secretary was at the Coast Artillery School at Fort Adams, Newport, this summer, and had the pleasure of being in the same barracks with several other '24 men, including Ed Russell, Izzy Stern, Doc Cook and Johnny Gegan. — Red MacNaught was reached on the telephone a few weeks ago, and was as replete with information as ever. Bill is with Stone and Webster in Boston, and is married. Terry Latham and Buswell are also in Boston, although they manage to keep out of sight. Mac also reports seeing Conway recently, and caps this information with the fact that Doc Cook is now in Boston to study the profession of patent law. We wonder how many will still be electrical engineers when another three years have rolled by.

I still live in hopes of having some of you boys loosen up with some mail this winter. If you want notes in *The Review* there is only one thing to do and that is to provide me with some news. Hal Donovan has sent me the VI-A files, pending the appointment of a VI-A correspondent, and I will certainly be pleased to get some news from that quarter.

— F. A. BARRETT, *Secretary*, 19 Stevens Street, Winchester, Mass.

'25 Cliff Abrahamson has left the New York Edison Company and is now a sales engineer for the Industrial Controller Company. — Johnny O'Brien was in New York a short time ago on a visit. He seems to be enjoying his work with the Westinghouse Company. — Bob Dietzold graduated from Yale last June with a degree of Ph.B. Not being satisfied with that, he has entered Oxford as a Rhodes Scholar, intending to study there for a year or two. — In August, Tom Killian sent me a card from Heidelberg where he is attending the University and trying to learn German. After October 10 he will be back in this country again and will go to Princeton for another year of study. — Kenneth Bainbridge was one of the five graduate students in the United States to receive a Charles A. Coffin Fellowship Award for 1927-28. These fellowships were created in honor of Mr. Coffin, the first President and Chairman of the Board of Directors of the General Electric Company, for the purpose of encouraging research in electricity, physics and physical chemistry on the part of students in educational institutions. Ken is at the Princeton Graduate School, engaged in research on photo-electric phenomena using monatomic films of alkali metals for the cathode surface.

Dwight K. Alpern was married on June 9 to Miss Grace M. Michelman of Brighton, Mass. — Lou Porter has moved to 145 West 12th Street, New York. At present he is an experimental engineer, but he says he expects

to become an instructor either at Cooper Union or at Pratt Institute. — Ed Rublee is a junior engineer with R. H. Baker Company, Inc., contractors for power plant and industrial piping. Their office is at Kendall Square, which gives Ed a chance to eat at Walker — if he wants to. — Frank H. Riegel left McGraw-Hill Publishing Company on September 1 to take the position of advertising manager of Stevens Walden-Worcester, Inc., Worcester, Mass., manufacturers of automotive equipment.

I have heard from Frank Fricker twice during the summer. He is jumping around the country so much that he has his mail sent to his home, 101 West 39th Street, Baltimore, Md., and forwarded from there. Here are a few selections from his letters: "I left New York, spent two weeks in Baltimore, then went on a ten day trip through the Carolinas and Virginia. Almost home from that little jaunt, I received a wire to go to Louisville, Ky., where I spent a few days. Incidentally I was in Lexington for a day or two and saw Man O'War, living a life of immortal ease on Miss Daingerfield's farm near there.

"I started about April 1 in the State of Mississippi, spending three weeks there visiting various towns and ending with a week in New Orleans. Alabama claimed me next, and with Birmingham, Montgomery, Mobile, and so on, to keep me busy I had a rushing time. That period ended with a day's drive in an Auburn straight-eight from Birmingham to Chattanooga, en route to Atlanta. The past several weeks (August) have been spent in Kentucky and when I complete my work here, in about two weeks, I expect to go back South. I am establishing permanent headquarters for the winter in Montgomery, Ala. I have a kid brother who is entering Technology this fall. He has completed two years at Virginia Military Institute and will take electrical engineering. I took him up to Boston for a day recently and he thinks he will like it." Is he going to run cross country, Frank?

Worthington, I, is in the Government Engineers Office at Louisville. — Howard A. Cyr died on July 20 of appendicitis.

During my vacation I took an auto trip through New Hampshire and Maine, finally landing in Beverly, Mass., where I spent two days with Harold Robichau. He and I went in to Cambridge once to see how much the Institute had changed in two years. Mac thought that with the new sections added on to '93, the dormitories would be improved. We saw several old flivvers that would make suitable adornments for the roofs. The inhabitants of the third floor of Atkinson during 1924-25 will be glad to hear that the signposts on the Esplanade have been painted a different color. Robie and I also dropped in to see Dennie and had quite a talk with him about Class affairs. Then we went to The Review Office, a good place to keep out of if you don't like to answer questions. Lobdell, Killian and Crawford asked us if we could suggest changes in *The Review*, how we liked the new system of printing class notes, and finally wanted to find out which one of several samples of paper we preferred. If any of you have any suggestions about *The Review*, tell me about them so I can have something to talk about the next time I am around the Institute. — FRANK W. PRESTON, *General*

Secretary, 17 Gramercy Park, New York, N. Y.

COURSE I

Back at it again! I don't experience as much zeal as perhaps I should after a summer's rest but here goes. I haven't received any letters since my last efforts, but have managed to pick up more or less general news. First there are the new address cards from Dennie which you can interpret as well as I can. Frank Anderson now receives his mail at 317 West Jackson Street, Springfield, Ill. — Mal Davis is with the California Railroad Commission, State Building, San Francisco. — Ed Erickson's latest is Division of Water, City Hall, Newark, N. J. — Max King is back in Toledo, Ohio, and still with the Building Products Company. I guess I mentioned before that his location in New York was only temporary.

And then there is the matter of announcements. Mr. and Mrs. G. Colburn Myrick have announced the arrival of George Colburn, Jr., on July 30, 1927. Congratulations, George. The engagement is announced of Miss Rachel Lorraine Batson and Mr. Kenneth Waterman Robie, both of Brookline. Felicitations, Ken. (I would suggest that your Secretary be put on a permanent mailing list for all announcements of engagements, marriages, births and anything else that you want to announce.)

In the September issue of the *Proceedings* of the American Society of Civil Engineering I read that Morrough P. O'Brien has been awarded a Freeman Traveling Fellowship by the Society. He has already reached Germany and begun the work for which the fund was established, "that of studying European methods and research in hydraulics and the relation of hydraulic laboratories to this fertile field of engineering. . . . Thus, the coming year will find a number of the best minds among young American engineers studying allied problems under unusually good conditions in Europe." Since leaving Technology, O'Brien has been doing research and graduate work at Purdue University. The chances are that he will never read these notes, but we can wish him good luck just the same.

Hank Colby and I had lunch with Ed Cousins not long ago. Ed didn't have any news about himself but was able to furnish a few bits of information. Conkey has left the American Bridge Company and is now in the bridge department of the Baltimore and Ohio Railroad. Herb Pierce and Johnnie Hart are working for the United Fruit Company in Honduras. A letter from Pierce to Conkey runs in part as follows: "We are on a new land project. You know this railroad belongs to the United Fruit Company. Hart and I, with a couple of other fellows, are out at the end of the line. We first put in a few more miles of track, then drain the adjacent land and survey it into shape for planting. Then we repeat the process ad infinitum.

"That country in the Black River Valley is all virgin jungle, an awful mess to work in, especially in the wet season. Occasionally you run into ancient scattered stone ruins, in which these jungles abound. They also abound in alligators, jaguars, tapirs, deer, pigs, turkeys, snakes and many other things to make them interesting." It sounds as

1925 Continued

though Herb ought to be right at home down there.

A few more changes have arrived since I started the job a few days ago and I find that Ralph Lewis is now located in Wetumpka, Ala., at the Dixie Construction Company. — HAROLD V. ROBICHAU, *Secretary*, 28 Bow Street, Beverly, Mass.

COURSE II

The Review Editors have asked us to leave out all punctuation, capitals, three dollar words and flowery introductions, so here goes. I have a clipping here announcing the marriage of George Witham. I don't think that belongs in the class of news any more because as I remember I got the item very early in the summer. You guessed it, the lady was none other than Miss Mary Ranton, and it says that after the first of this month they will reside on Winthrop Street, West Medford. It is also interesting to note that among the ushers was one Charles Elmer Knight. It is a little late to wish George the best of luck, so I can only hope that he has got this winter's coal in. — Myron Doucette has also added to his responsibilities, for I received an announcement of his marriage in December last. Now I have seen Myron since then and he didn't tell me he even considered such steps. He was in pretty high spirits, though, and I hope he is still just as happy. — Dick Tryon has returned from his several months' still hunt for the Standard Oil Company and I suppose is somewhere in Elizabeth for a while. I saw him just after he came back from Louisiana and just before he started for Maine on his vacation. He seemed pretty much disgusted with New York after having been in places where men were gentlemen even in the winter. Not only have I seen Dick, but I have had a dinner by the kindness of Mrs. Tryon. I hope all of you fellows within eating distance of Garden City follow Dick's example and choose some one who can cook. I could carry that further and suggest that you follow Dick's example and invite me to dinner, but I guess you get the idea so I won't make the hint any broader. It's a good idea, though.

I have been wandering to Buffalo quite often of late, and on one of these trips I rode by to Niagara Falls and burst in on Jack Rountree. It was Saturday afternoon so Jack was sound asleep, but I finally roused him and he showed me around the apartment. It is a very interesting place, especially the electric refrigerator. Those little cubes of ice are practically an essential around Niagara Falls and vicinity. Jack also showed me the Falls. By that time, though, it was dark and, besides, we were on the Canadian side, so I'll have to admit I wasn't impressed very much by so much water. If you are up that way look for the Sagamore Apartments, Mr. Rountree, and a good time.

Frank Preston, Don Wheeler and Roger Parkinson have forsaken the Club and Brooklyn respectively and are living together in an apartment on Irving Place, just around the corner from the Club. Their address was 71, but I think after the first of the month it will be 77 Irving Place. [You think correctly, Roger. Come around some week-end. F. W. P.] Of course, as they say, when you have an apartment of your own you have more freedom. I agree with them. I'm for bigger and

better parties myself. I suppose you think I got lots of letters from the fellows during the summer. Well, I did get one. It was from Ed Collins and a welcome one, too. Ed is still out in the corn belt, cruising here and there and using Des Moines for his anchoring grounds now and then. He likes it so well out there that he has even bought a Ford and is nursing it into running condition. At the time he wrote he had just seen Halliburton. Hal is working (or at least is on the payroll) for the Mid-Continent Petroleum Company, has his own private office, a Chrysler coupe and an airplane. Having reached that for a climax I think I shall say good night. — ROGER WARD, *Secretary*, 17 Ash Street, Garden City, L. I., N. Y.

COURSE X

Well, boys, we are going to turn over a new leaf this year in the matter of appearance of Class Notes in The Review. Some of the members of the Class are somewhat exercised over the poor showing of our Class in comparison with others, and I cannot say that I blame them. So I am going to continue my policy of sending out post cards, and I will try at least to get in news bi-monthly. Judging from the letters and news that I received during the summer, the fellows have been rather busy, particularly along matrimonial lines. The way the new households are springing up is a caution to behold.

Eddie Milne has brought Mrs. E. A. back with him to Athens, Ohio, where he is teaching school at Ohio State. During the summer he was teaching one of Hamie's Qualitative sections and then finishing up his M. S. thesis. — Phil Glasson was married to Miss Alice Hayward at North Easton, Mass., on July 2, and he is living at Berlin, N. H., where he is engaged in research work with the Berlin Mills Company. — The New York *Herald Tribune* has made the announcement of the marriage of Miss Ada Francke of Brookville, Long Island, to Mr. John M. Whitaker. On their return from their honeymoon, Mr. and Mrs. Whitaker will live at Tallwood Cottage, Huntington, Long Island. — Arthur Sharp also casually announces he is planning to take the fatal step on November 12, and will spend his honeymoon traveling in England and on the continent.

Phil Gruber writes a very interesting letter from New Brunswick, N. J., where he is assistant to the manager of Insulation Sales for the duPont outfit. — Eddie Dirks is still at the Tidewater Oil Company, and has lately been switched to the Development Department. Rumor says that Ed has invested in a diamond and that he may be housekeeping in another year. — George Caine is also with the Tidewater Company, and has received a nice promotion to the fourth man in line for the process superintendent's job. — Ben Beale is control man on the production of Tontine window shades division of the duPont Company at Newburgh. — Tom Nelson is still at Dennison's at Framingham, Mass. — Eddie Booth is traveling for the Century Indemnity Company, and is at present connected with the Syracuse office. He covers the central and western parts of the state and seems to be enjoying himself immensely.

George Fuller reports that he is still happy, though married, living at Orange, N. J., and

Froideveaux Cie. He reports seeing Hank Bodell at the time of the Reunion, and said that he is working at the research laboratory of the Consolidated Gas Company. — Charlie Cooper is an assistant in Course X-A at the Winchester Practice Station. — I came across Greg Cunningham and Ed Murphy the other night in town. Greg is just finishing a special degree at the Institute and is now control man with the Lynn Gas and Electric Company. Ed Murphy is still with the Lind Air Products Company and is as jovial as ever.

Bob Hatton is chemical engineer for some paper company in Lawrence. — Bruno Roethelie is working in the research laboratory at the Institute. — I had a very nice letter from Louis Campfield. He reports that after leaving the Institute he did design work on circuit breakers for Condit Electrical Company and is now connected with the Westinghouse Electric Company in East Pittsburgh, being employed in the Engineering Department of the Circuit Breaker Section. He writes that he is making very active efforts to make a treatise on the subject of circuit breakers.

Chet Trask, of Course XV, has lately joined our outfit to take charge of sales on Petro Oil Burners. In addition, we are opening up a research laboratory and have added F. S. Badger, Jr., '27, to the staff. I have just opened up an office at 10 High Street, Boston, in Rooms 501 and 502, and would be tickled to pieces to see any of you fellows either there or at Brockton or at the Cape. At any rate, please try to get some news to me of yourselves by some hook or crook, so that we can keep this column functioning properly. — SCOTT EMERSON, *Secretary*, 16 Lawson Road, Winchester, Mass.

'26 Our historical sense prompts us to exhumate the news that a class luncheon was held during the Convention in New York last June. Elmer Knight was the *deus ex machina*. The affair went off with a smoothness and dispatch all compact. When the roll was called the following answered to their names: Sam Cole, John Larkin, Allen Bassett, Alton Heyser, John Jacob, Dave Harrison, N. G. Evans, Harold Willoughby, Bob Richardson, I. R. Macdonald, C. M. Pickett, Jr., N. J. Soprenza, Dick Li, Phil Robinson, T. E. Norton, W. H. Ford, Elmer Knight and your General Satrap.

The luncheon was right up to scratch certainly, but the Gensec must confess that the apogee of class spirit was attained the preceding evening at a private caucus he was privy to called by Macdonald somewhere in the vicinity of Washington Square. Despite the fact that a fledgling (Crawford) of the Class of 1927 was present, the proper amount of dignity was preserved by the compensating presence of John Fife, '24.

The Secretary was in something of a maelstrom last spring and consequently must apologize for overlooking an important item submitted by Jiggs Rogers. Jiggs puts in a claim in behalf of Karl French for the honor of having the Class Baby. We will let Jiggs tell it himself: "I have been forcibly reminded that in view of the numerous prizes offered, all awards of baby shoes, and so on, for the 1926 Class Baby belong among the

1926 Continued

Lares and Penates of the family of Karl French, '26, Course XIII, who is now living at 59 North 13th Street, Newark, N. J. To wit, French was four years at the Institute and graduated there. He was married there and now has, Item 1, a daughter named Vera who, at the present, is some two years. . . . Item 2, a son, Richard Franklin, born last October. Consequently we have things all our way. Whereof, fail not to publish a full and true account."

Theorem: The summer, no less than the spring, prompts connubial contrivings. Proof: (a) Charles E. Tonry, on September 17, married Romilda Teresa Ress at Saint Patrick's Church in Turrilde, Colo. (b) Theodore A. Mangelsdorf, on August 16, married Beatrice Hooley in New York. (c) Arthur B. Brand, on October 8, married Julia Hotchkiss Morley, Saginaw, Mich. (d) Robert C. Dean, on September 10, at the Old North Church in Boston, married Ruth Andrew of Boston.

Once again the Secretarial salute is given to herald the approach of the new Course IX Secretary: James Baker Bamford of Reading, Penna. A pristine-appearing card received by the Secretary indicates that the aforementioned Bamford is now in business for himself as a general contractor. He will take the oath of office amid a verbal display in this column next month. — J. R. KILLIAN, JR., General Secretary, 13 South Russell Street, Boston, Mass.

COURSE II

The summer has been a lazy one for Course II men apparently, most surely it has for this Course Secretary. But one man has disclosed his doings or whereabouts to me, though I hope the bracing autumnal weather may now inspire others to unusual heights of correspondence.

Art Benson wrote early in the summer that after seven months with the Western Electric Company at Kearny, N. J., as student engineer, he had joined the Fisk Rubber Company at Chicopee Falls. Lloyd Littlefield joined the organization about the same time and they, together with Bruce Humphreville of Course X, have been on developmental work. Art is in the tire construction division.

Among the other classmates rumor has it that Dick Connet is with the duPont Company at Fairfield, Conn., Red Elmendorf is married and still working for Swift and Company in Chicago, and Phil Robinson is still with Ingersoll-Rand, but has been moved to New York and is in the export division. Arnie Marshall and Don Wheeler were at the Technology Club in New York in June, but Arnie was due for a change to the Marseilles, Ill., plant of the Starrett Roofing Company. Bob Brand I hear is located in Rockford, Ill., in a plow works.

I hope the next month may be productive both of news of those unheard of so far and in details concerning some of the rather vague information above. — JOHN JACOB, Secretary, 1037 South Kenilworth Avenue, Oak Park, Ill.

COURSE V

Promotion!: Billings is now assistant chief chemist at the St. Louis plant of the United Drug Company, after having had two weeks

at Edgewood Arsenal with the Reserve officers in July.

Travel: Chase made a trip over and back on the *Leviathan* in June, and has since been bubbling over with impressions of London and its varied attractions. On July 1, Chippy acquired a wash bottle in the Dyestuffs Laboratory of the duPont organization at Pennsgrove, N. J., where he has lived ever since, with the exception of the first week end of every month, when he may be located in or about New York.

Unsettled: Toward the end of the swelter that was July, a report reached us that Cheney had started for the West. It seems that he and Pink Salmon got as far as Chicopee Falls, where they ran into Bruce Humphreville. A bright reunion must have followed for the western trip ended there, and we have since heard that Stan is back at Lawrence with the American Woolen Company, dyeing.

Discovery: Cowperthwaite, who we had all along supposed was doing graduate work at the Institute, has turned up right here in New York. The whole past year he has been working with Dr. MacInnes at the Rockefeller Foundation. An account of some of their work on the Moving Boundary Method appeared in a recent issue of the *Journal of the American Chemical Society*. I'm sure we all join in congratulating the first of our group to have his name appear so prominently.

Itinerant: Of Fletcher we have heard that he was first out West, later down South, still later around Boston. We had thought the medal for travel went to Chase uncontested, probably because we heard more about his peregrinations, but now there appears to be a little competition. However, Johnny's case is supported only by hearsay — not even so much as a picture postcard have we received as evidence of his continued good health and whereabouts. Stop at New York sometime. Remember even Hendrik Hudson declared Manhattan a splendid place for a visit, even though he refused to stay.

Paradise: That's where we would all think we were if we suddenly woke up in Sanderson's new laboratory. Metcalf and Eddy now occupy the thirteenth floor of the Statler Building, and we had the pleasure of visiting Sandy there for a whole beautiful afternoon late in August. Words fail to describe the place; it's just a chemist's heaven inside, and to look out the window is to have a major part of Greater Boston in your sight.

Titled: Searles has been the research chemist at the Plymouth Cordage Company since June 1. Also, it is our impression, the only and chief chemist. Counting Johnny, with Billings and Sanderson as assistant chiefs, we've made a pretty good record so far, haven't we? Business of puffing out Secretary's chest, if any.

Darkness and mystery surround the careers of Bates, Harrington and Wurtzel since June 1926. Enlightenment is desired. — Baxter and Van Blarcom, living in connubial bliss, have not been overly communicative, but this is of course excusable. Don't let's get too much out of touch, though. Ernie also has a title — that of assistant superintendent in the black paper plant. — Wake-man remains our sole survivor at the Institute.

Those who have not heard before will be

surprised to learn of the untimely death of Roger Rust. This occurred last May, following an operation for appendicitis. Although Roger did not leave the Institute with us, we have always considered him one of our group, and agree that through his death we have lost a conscientious and thoroughgoing fellow worker in the cause of the advancement of science.

And now — your Secretary. The reunions of June, the sweat of July, the rain, chill, and vacation of August, and the ideal weather of September have wrought no great changes in my habits — of correspondence, at least. Perhaps you would all have had a letter from me this summer, as I intended you should, had I not met — but we won't talk of it that way. Blame it on my original and persistent procrastination. Right now I'm getting settled for the winter: moving to new quarters; registering for a night course or two; counting my boiled shirts and polishing up the stick, counting the pennies again. I'm still yearning for more facts and less hearsay. I've even thought of inventing yarns in the hope of drawing forth a letter of repudiation. That borders on blackmail and slander. Please don't send me to jail. — I. R. MACDONALD, Secretary, 74 Irving Place, New York, N. Y.

'27 In this, the first official blurb about the individual members of the Class, your General Secretary had high hopes of giving you a complete and unexpurgated set of class statistics. Those good intentions have gone the way of others, equally good, and are now presumably warding off the poundings of chariots on the one-way highways to Hades. It is with apologies, therefore, that I content myself by telling you that we have two bank accounts totalling \$186.51, four stamped envelopes, and some 340 paid-up members of the Alumni Association. Later, we shall hear something about statistical necrology (mortal and scholastic) and other vital statistics, in so far as they pertain to the Class of 1927. To this end, it is important that each one of us keep in close touch with his Course Secretary. At this writing I am told that if everything goes well and nobody in the Alumni Office burns out a bearing or throws a shoe, we should have a complete address list of the Class by Christmas. When that arrives, it will be placed in the hands of the Course Secretaries, who, with an even more direct appeal than I am making here, will urge you to advertise yourselves.

Although our organization is far from complete, we have something started. Of the fourteen Secretaries covering the fifteen full-fledged courses, five came through with excellent notes, four more promised but failed to send them for one good reason or another, the other five did not respond at all, but mistakes on my part account for two and an act of God for a third. I have rounded up what information I could lay hands on and present it here without any attempt at classification. It, you will notice, speaks only of fellows more or less intimately known to your Secretary, a characteristic which crops up in all the Course Notes that follow. We Secretaries have had to rely on personal knowledge and gossip for most of it — another good reason for your writing!

1927 Continued

Of the Course Secretaries, I might mention that George B. Darling, VII, has been with the Detroit Health Department this summer preparing to go into editorial work with one of the national public health journals in New York later on. His address is care of City Health Department, Detroit. — Don Spitzli, X, will have gone to the Winchester Station of the Practice School by November 1, where he will live at 7 Central Street. — Nat Cohn, XIV, is with Leeds and Northup, instrument makers of Philly. He likes his work very much and his address is 44 Tulpehocken Street, Germantown, Penna.

Sidney Berman, IX, and Thomas E. Hegarty, IV, were the two for whose silence I am to blame. Speaking of Sid, Nat Cohn reminds me, "May I call attention to the fact that the fellow I introduced to you after the banquet at the University Club and whom you designated as Course IX Secretary, was Sidney Berman, and not Sidney Gerber, as per *The Review* for July." I haven't an alibi, not even the "too much barleycorn" one which Nat so kindly suggested. Sid Berman's home address is catalogued as 584 Salem Street, Malden. A letter to Thomas E. Hegarty addressed to his home at 9 Mt. Vernon Street, Somerville, was returned by the post-office, not, I discovered just now, because Hegarty had moved, but because I had mis-addressed it. And so IX and IV are silent this month. — Hank Steinbrenner, XIII, is the one for whom an act of God accounts. He, if advance newspaper clippings may be trusted, was to have married Miss Rita Haley in Cleveland on the evening of September 9. His home address is 1096 Homewood Drive, Lakewood, Ohio. — I have heard nothing at all from Riley, III, or Dick Davey, XII.

To Dave Knox we are indebted for the information that: Allan T. Gifford, I, spent the summer in Europe; Elmer Lawson, I, is working for a firm of consulting engineers in Chicago; Fred Hooven, IX-B, is working with him in engineering tests section of the General Motors research laboratories; Joe Yates is with the Fisher Body Corporation in Detroit; Arthur Underwood, '26, II, spent the summer at the General Motors research laboratories studying cam shaft development. He is now taking graduate work at the Institute.

Here is a filtered letter from Dan Metzger, written aboard ship, twenty miles from Cuba and 740 from Panama, and mailed at the latter stop. "Bill Hogan, II, and I shipped as ordinary seamen August 1, fooled around for a month in Chester, Philly, Boston and New York while it loaded and now are on our way around the world via Honolulu, Manila, Singapore, Aden, Port Said. We've been promoted lately and now, together with two boys like us from Oglethorpe and Georgia Tech, do all the steering. It is a good job and so far we have had no serious accidents. But we work twelve hours a day — imagine that, so all we have time to do is steer, eat and sleep. We get back about the middle of January, and I'll probably be in to see you not much later. However, don't let your hopes carry you away, for I am going to let the *VooDoo* have exclusive rights to the story of my trip, and Bill is seriously considering letting the *Boston American* have his own true story of it." From his last remark about publication rights, it would appear that things are hap-

pening to Dan and Bill which would not pass muster were they described in this journal of sweetness and light. But perhaps we are wrong. *VooDoo* may have changed!

And a few miscellaneous dribbles: Charlie Hurkamp is now with the Bemis Bag Company. — Bert Nadler is working for the Celotex Company across the river from New Orleans. — Bud Fisher went to Baton Rouge, La., with Standard Oil in their research laboratories. — Collins, Whittier, Spitzli, and a number of other Course X men are in the School of Chemical Engineering Practice. — John F. Healey, is with the Kirby Manufacturing Company in Middletown, Conn. — Grimwood worked in the Communications Laboratory at the Institute all summer and is now with Samson Electric at Canton, Mass. — Jim Henry finished up this summer and is going to work for Stone and Webster.

Immediately after commencement, President Jim Lyles made for Honolulu from which place he returned a few weeks ago to work for Harris-Forbes in New York. He is living there with his brother at 189 Madison Avenue. Shortly before moving to this new address, the two Lyles sent out at-home post cards, upon which no mean artist expressed in tabloid the address and location of the Brothers Lyles, together with the telephone number and favorite pastime of each. Soon we hope to have an official message from Jim which we can reproduce here.

From Dick Cheney, at the Skillet Works where he and Bob Bigelow are taking a training course, I received an interesting letter: "The factory has closed down for the day to allow us poor laborers to take in the County Fair (the biggest thing that happens around here in the course of a year). Relieved for today of our customary arduous ten hours' work in the assembly department, and not sharing the common interest in things bovine and agricultural, I am writing you instead of taking in the Fair. Not that this letter will take all day, but then, there are a couple of others, and a co-educational steak roast planned for the P. M. Bob and I are thoroughly sold on the electric food preparing machinery business. The men are all live wires and good scouts to work for. [I hope to gosh that I'm not unwittingly exposing any of Dick's and Bob's secrets.—J. D. C.] The labor conditions are excellent, never causing trouble. The products are leaders, and the engineers know their food preparing machinery all right. Something new every day or two, and people *must* eat. We have practically as steady a market as the undertaking business. Besides that, this is a great town to live in. Quiet, but interesting in a nice way. Two weeks more, and we return to the white collars, and punch typewriters in the order department." Then, after much incidental retrospection (the word is Dick's) he concludes with this geographical comment: "A letter, enclosing a couple of hills to set up here in the middle of the good Lord's pool table, together with a little news, would be appreciated. Regards to all from Bob and me." His address is 119 South Cherry Street, Troy, Ohio.

Hank Kurt, the Secretary and only living graduate of Course XVI, broke into the *Boston Herald* with an account of a skillful airplane landing. The following is an abridgement of the *Herald* story: Franklin T. Kurt,

now instructor at the Dennison Aircraft Corporation flying school at Atlantic, on September 3 landed an airplane minus one wheel without injury to the plane or passenger. Kurt was aloft with a pupil, when Chief Pilot Allan T. Bourdon on the field noticed that the right wheel was missing from Hank's landing gear. As Kurt circled the field to make a landing Bourdon signalled to him to stay aloft and displayed a spare wheel to call Kurt's attention to his predicament. Kurt sensed the warning and rose again. Allowing the pupil to pilot the plane, Kurt climbed out on the right wing and examined his landing gear, discovering the situation. Then he essayed the feat rarely accomplished in flying — a perfect landing with damaged running gear. He brought the Waco 9 to the field and angled it so that the bare axle was held above the ground, landing the plane on the single wheel. Holding that position he swerved the plane into a reverse on the ground, stopping it. The right wing settled to the ground without tearing its fabric.

As a closing gesture, allow me to formally announce that your General Secretary is now embroiled in the process of moving his social headquarters to Suite 14 at 66 The Fenway, Boston. He will, however, continue to conduct this column from behind the glass-panelled door of *The Review* office. — JOHN D. CRAWFORD, General Secretary, Room 3-205, M. I. T., Cambridge, Mass.

COURSES I AND XI

I don't expect to do a very good job this month, as I have been too busy moving about the State of New York. I'm with the New York Telephone Company, but in no permanent location. I hope to be more settled in a month or two.

So far, I've heard from about one-eighth of the Class. Of this group, Johnnie Boyle writes that he is a surveyman on a dam across the Ohio River. Johnnie says he likes the work, and together with Jack Adams, Shorty Newell, Walter Johnson and Flute Ylvisaker, is attempting to make the Ohio River something worth while. Their address is Dam 50, Ohio River, Caseyville, Ky. Flute is living at the Y. M. C. A. in Louisville, Ky. — Dicky Cheney is with the Hobart Manufacturing Company at Troy, Ohio, which, Dick says, manufactures hotel and restaurant machinery. — Johnnie Drisko has the following to say about his travels in Germany: "Germany is very good. I had the good fortune to go with Mr. John R. Freeman ['76] on a twelve-day tour of the hydraulic laboratories in Germany. It was wonderful. The language is the biggest hindrance. Next Wednesday I am going to Danzig to commence my studying of hydraulics. My address will be c/o the American Consulate, Danzig, Danzig Free State."

B. H. Idelovitch, better known as Hiram Benami, says this in a very confidential letter: "But I wish to tell you that I have resolved to start working." I think he will receive the hearty congratulations of all his classmates for that bold, unsolicited statement. Best luck, Bon Ami. If anyone wishes to congratulate him, his address is 116 Campbell Avenue, Revere, Mass. — Paul Ivanchik made a good start, in that he intended to keep me informed of the progress he was making toward becoming a great railroad engi-

1927 Continued

neer. He did well — he told me that he got a job with the Philadelphia and Westchester Traction Company, 69th Street Terminal, Philadelphia, as engineer for the company. After that I heard no more. — Letourneau is in New York City on subway work. — Carl Redd has started as an instrument man and chief of construction on a pier of a bridge, for the Louisville and Nashville Railway at Hurricane, Ala. Carl says "Foundations" was a great course. — George A. Hall's address is 1914 East 75th Street, Cleveland, Ohio. — I am in the Plant Department of the New York Telephone Company, and I am usually at Syracuse, N. Y. The work is not civil engineering, but so far it has proved very interesting. For the present address me at Columbus. — L. G. MILLER, *Secretary*, 477 East Mount Street, Columbus, Ohio.

COURSE II

I had nearly given up in despair of writing any course notes for John, for what would alumni notes be without at least one announcement of marriage. But I write this now with beaming face and clear conscience, and I owe it all to At Witham.

Yes, you guessed it. "Miss Elizabeth Frances Flynn, Mr. Winfred Atherton Witham, married the seventeenth day of August, nineteen hundred and twenty-seven." Congratulations, At, and the fullest measure of happiness to you. At is with the research laboratories of the Studebaker Corporation at South Bend, Ind.

A veritable nest of Course II men may be found at the Goodyear Tire and Rubber Company in Akron, Ohio. Larry Coffin, Hal Hibbard, Tommy Knowles and Gordon McNeil are all learning the tricks of the rubber business from the Litchfield organization. Coffin has entered the tire design department and the others are finishing the three months' training course which terminates on October 3. Tommy Knowles was in Detroit over the Labor Day week-end and spent most of the time wondering why Coffin and McNeil should go all the way to Boston for the week-end. [For more dope about the record-breaking Mr. Knowles, see the Akron Club's notes in this issue of The Review.]

F. Cameron Hutchinson reports that he is located in the research laboratory of the Linde Air Products Company in Buffalo, N. Y. "Fortunately I am quite delighted with my work which is diversified and interesting." Hutch also writes that Manuel Liwanag left San Francisco for Manila July 23, and expected to take up his work with the Philippine Constabulary, where he dropped it before entering the Institute. [For dope on Sid Badger, see Course X, Class of '25. — J. D. C.]

Harry Inskeep stopped at Detroit on September 1 en route from Brooks Field, Texas, to Boston. Harry had been in training at Brooks since July 1, and when I saw him in Detroit his plans for the future were rather uncertain. He informed me that Fritz Glantzberg was still at Brooks Field and was one of the best student pilots they had down there.

I am with the General Motors Corporation research laboratories in Detroit, working with Bill Ramsaur in the Engineering Tests Section. This is a great organization for Technology men, there being at least a dozen here

this summer. That is all the news I have this time. I should like to hear from more of the Course II men before the next issue of The Review appears. — DAVID R. KNOX, *Secretary*, 4506 Allendale Avenue, Detroit, Mich.

COURSE V

I have not got much information that I did not have in Boston. The Four Horsemen: Brady, Burke, Castner and Vint, — no longer together, — are galloping on different roads. Brady and Burke like their Boston, especially Cambridge. Castner and Vint, I believe, went South (not for their health). I wonder if Castner still likes to get up when reveille blows or if some one makes him get up now?

Bugbee, Stuart J., is outside of Quakerish Philly knocking on the door of recognition for his place in the sun. He is fiddling with Celeron. — George Standley and Mac (Roger McArthur), to the best of my knowledge, are still in Cambridge and connected with the Institute. — Decker and Truax, the heavy-weight champions of knocking at girls' hearts, both are working hard. Dave went down to Delaware to work for the duPonts. Ralph Peterson went with him, having decided to go there rather than with Eastman Kodak. — The southerner of our group, Jimmy Small, went back South, this time to Louisiana with the Standard Oil. He is the one Course V man with a bunch of good Course X men. May he succeed.

As for myself, I am an assistant in the Department of Chemistry of the University of Illinois. I look forward to witnessing some fine football games this fall. Gang, please write to me so I can get your correct addresses and some news for our Course Notes later in the year. My permanent address is 18 May Street, Rochelle, N. Y., but you can reach me any time this school year at the Illinois address. — EDWARD T. DUNN, *Secretary*, 205 East Stoughton, Champaign, Ill.

COURSE VI

No, this is not another issue of the 1927 Senior Rumor, but I will have to admit that rumor is about the only source of information I have this month, and you know what a terrible source that is. In order to get you fellows to write I guess I will have to proceed on the basis that you are guilty of anything I may hear about you unless you prove otherwise by writing.

As a horrible example, it is rumored that Duke Weller has gone and done it. He is married. And married he is going to stay until I hear from him. Now I hope you will all profit by that, for who knows what I may hear about you before the next issue. On the other hand, if anyone else wishes to claim the honor of being the first member of the Course to be married since graduation, let him write me and I will do all I can to help him establish his claim.

It is said that Bill Sullivan spent the summer in New Hampshire with the Meredith Electric Light Company, and that he is now back in the Institute as assistant in the Dynamo Lab. In fact I am almost sure of this, for I actually talked with someone who claimed that he in turn had heard this from Bill's own lips. I am also almost positive that Ted Ordman is working in the Patent Office in Washington and that he is going to become a patent lawyer.

Dick Briggs had a temporary job this summer as commercial radio operator on a ship, and I wish he would loosen up and let us know where he went and whether or not he was able to bring anything back in his suit case. — Howard Chinn is back at the Institute as assistant to J. K. Clapp in the radio research laboratory, and Laurence Burns is an assistant in the radiometric measurements (ultraviolet, x-rays, and so on) laboratory. Chang Tsao has been working around the laboratories all summer and is going to Harvard this winter.

And now for another choice bit of rumor. It is said that Art Buckley had a job this summer with the firm that puts out the Nut-House brand of salted nuts. Just what capacity he served in there I don't know, but I understand that he is now with the Rand-Kardex Company here in Boston. — Dan Sullivan and Ed Alfred motored to Tupper Lake in the Adirondacks this summer as soon as they finished R. O. T. C. camp. Now they are together in Pittsburgh working for the Westinghouse Company. — Toby DeNapoli was laid up for a while after graduation with scarlet fever. — Andy Anderson is working with the Monroe Calculating Machine Company in Orange, N. J., and still contends that the thesis that he and Toby performed is an epoch making volume. The main fault he seems to find with his firm is that they won't let him use his slip stick. And lest the world forget, he wishes me to pass on the old watchword, *Huyzen Mit Maschinendaft*. — Carl Anderson is in Albany — why, I don't know.

That exhausts the rumors that I dare to print and now I will have to talk about myself in order to fill. I am taking a course in public utilities with the C. H. Tenney Company of Boston, and have been assigned for a while to the Malden Electric Company. But although I am now a hard working man, the old Class spirit still prevails. In fact the first thing I did when I went to Malden was to arm myself with a hammer and some numbers and then went around, and on every new electric light pole that I could find I nailed up the good old numerals 27. I couldn't find any red paint, or I might have added To Hell with '28.

But that gives me another idea. If you fellows don't write and I can't threaten you by printing rumors, the next issue I am going to do nothing in this space but throw the bull at the advice of Tubby Rogers at the Class banquet — about myself. That surely ought to result in a flock of letters of protest, but letters are letters. Let's have some more, fellows, let's keep the old P. E. E. gang in print. — CHARLES A. BARTLETT, *Secretary*, 27 Iffley Road, Boston, Mass.

COURSE VIII

Seventy-five per cent of the Course do not seem to have had enough Institute work and are back this year for more. Fifty per cent of the Course were awarded Fellowships in Physics, Dave Luck and Bill Zisman each receiving honors. Dave is the Swope Fellow and has plunged right in to his schedule of study leading to a Ph.D. Bill is the Malcolm Cotton Brown Fellow and is working for his master's degree.

No word has been received from James Forbes. — I am also back for a year of gradu-

1927 Continued

ate work. — HAROLD HEINS, *Secretary*, 192 Bay State Road, Boston, Mass.

COURSE XV

George C. Houston, the legal proprietor of this section of *The Review*, spent his summer in Europe, and on his way back to New Jersey to work, he stopped in Brookline for a few days and for other reasons. Powerful attractions there released him for a few moments' visit with your General Secretary at the Institute, and because of this, and the fact that George in vain cooled his heels in the office for several hours in order to discuss Class notes, while the Gensec looked at second-hand furniture, I am stringing these notes together to keep his record clear. So much for an explanation.

George seemed to enjoy the Continent and Scotland, and more especially, the home trip on which he was separated from five shillings and inducted into a semi-secret "charity" organization called the Ancient Order of Froth Blowers. It is apparently the British brewers' version of a drink-a-gallon-of-water-a-day campaign. All members wear a distinc-

tive set of cuff links, and being unable to produce them when the command, "Shoot Your Linen" goes round the pub, the careless member is required to stand treat for the assembled multitude. I'll wager that they didn't catch George! One other feature of the organization is its name for the official gavel, a name that should bring tears of joy to the eyes of a phonetic philologist: "pifflesnocker." George couldn't say enough for the organization, and I confess that I enjoyed reading the rule book immensely. It seems to me probable that our other trans-Atlantic travelers have had a similar experience. George went to work with the Murphy Varnish Company in Newark, but will live at home.

From one source or another, we hear that Joe Burley is back at the Institute for graduate work. — Frank Mesker is going to get married. He is working for his dad in the steel sash business. — Lloyd Macadam has become a 2d Looie in the Army. — Ned Anderson will be Professor Freeland's assistant in the department, Maurice Davier, Professor Shugrue's. Ned spent his summer at Lake Winnepesaukee in New Hampshire. Maurice

traveled in France and Austria, and saw Dike Arnold in Paris. — Ray Hibbert and Hal Reed went with American Tar Products, Ray to the South, Hal to the Middle West. — Bennie Levinson is with Gilchrist's in Boston. — Bill Berkeley is back at the Institute. — Johnnie Field was in Boston for a few days recovering from the effects of a long vacation. He is not definitely located as yet, although he was at one time seriously considering "going pro to satisfy 'that crying need'" by joining the staff of the National Broadcasting Company. "He couldn't reach the microphone," was one comment from an easily identified critic. — Alf Berle married Miss Edith Rice of West Newton early in the summer, which was, we believe, the first post-graduation wedding. They spent their honeymoon in Europe. Alf is working for Eaton-Crane-Pike Company. — On September 18, Henry Charles Fowler, Jr., married Cecilia Augusta Doane at Swampscott, so the announcement says. That exhausts the list written on behalf of GEORGE C. HOUSTON, *Secretary*, 612 Prospect Street, Maplewood, N. J., by J. D. C.

News from the Alumni Clubs

Detroit Technology Association

FOLLOWING our usual custom, the Detroit Technology Association discontinued its regular meeting program for the summer months, and the only organized gathering took place late in July at the Oakland Hills Country Club, when an attempt was made to name the champion. Competition ran pretty keenly in the class of the real golfers, and it was mentioned that a new par for the difficult south course had been set up. In the other class, the so-called duffers, perhaps some other records were established, although the written evidence was not officially turned in.

Our first activity of the fall season was a little informal dinner at the University Club, when we had as our guests some of the men who were about to leave for the Institute to enter as freshmen. We were rather proud to have nineteen new men enter from this district, and we wish the whole nineteen all kinds of success in their new surroundings. — EVERETT F. DOTEN, '19, *Secretary*, Stedman Products Company, 1217 Book Building, Detroit, Mich.

Washington Society of the M. I. T.

The fifteen prospective new students to enter Technology this fall from this territory were invited to attend the luncheon Friday, September 9, as guests of the local Alumni. Some of the new students had already left Washington and others were still away, so that only half a dozen were able to come. They were entertained by a fairly representative gathering including a goodly proportion of

the local old faithful. The Secretary will refrain from reporting those present coming under this classification for fear some might be sensitive about being included among the "old" and others might not have entirely clear consciences about the "faithful" designation.

Speaker luncheons for the third Friday of each month will now be resumed with all other Fridays designated for luncheon without speakers. Luncheons are held at the University Club. — A. E. HANSON, '14, *Secretary*, Government Printing Office, Washington, D. C.

Southeastern M. I. T. Association

The Club's final blow-out, on May 27 and 28, was an explosion de luxe. The Alabama Power Company was kind enough to furnish the detonation, but the old boys burned while the younger did the constraining. It all happened this way. Some twenty-five Alumni from Alabama and Mississippi gathered at the Company's office building in Birmingham and departed in automobiles for Mitchell Dam. After inspecting the project, the party sat down to a delicious fried chicken dinner at the Clubhouse. Then followed a night of swapping experiences, playing cards, and raucous snoring.

The next day began auspiciously with a bounteous breakfast and a dust chaser of thirty miles to Lock 18, a wonderful location for the Company's latest and best hydro plant of 144,000 horsepower, set in a niche especially prepared by nature. This was of particular interest as it is under the care of O. G.

ThurLOW, '04, chief engineer. Anson Allen, '85, climbed over the construction equipment with even more agility than the young replica of P. V. Kelly, '13.

Lower Tallassee, with its deep rocky channel, was the next site to receive a hurried glance before the waters of the Tallapoosa submerge it. Upper Tallassee offered something new, inasmuch as it involves the raising of an old dam. When the new installation of 65,000 horsepower is completed, the head of fifty-six feet will be the lowest of the hydro plants now operated on the system. Then the steward at Upper Tallassee sprung the surprise of the trip with a roast chicken and steak luncheon. The morning scrambles had created sufficient space in the most of the members to do justice to the well-laden tables.

The acme of water power development was seen at Martin Dam. The architectural beauty of the power house and the graceful curves of the long spillway section offer one of the strongest arguments against the opponents of river harnessing, "because it spoils natural beauty." Lake Martin, lying in the southern extremity of the Appalachians, has created beauty and has given to Alabama an expanse of water beside which the weary may find peace. After a final glance from the deck of the dam, every one was homeward bound, full of inspiration and much indebted to the Power Company for its courtesies.

Now that summer is gone, activities will begin and the young but thriving Club will attempt to solve problems of a more complex type. Regional scholarships, while very desirable, have not yet been found practical,

conditions here being of a special character. The officers were given power as an executive committee to go into the possibility of a Dixie Dorm in conjunction with other southern Clubs. Former-Dean Burton's visit occasioned this forward step, as well as a fitting reception at Oscar G. Thurlow's beautiful new home on Shades Mountain, to which as many men and their wives as could be hurriedly corralled were invited. United we stand; energized by Fall. — RUSSELL W. AMBACH, '24, *Secretary*, Alabama Power Company, Birmingham, Ala.

Southwestern Association of M. I. T.

After a rather quiet summer the Southwestern Association of M. I. T. is preparing to hold its regular monthly luncheons again during the coming season. We have not had a meeting since June 11, on the occasion of the Technology Clubs Associated Convention in New York. At that time, Herman C. Henrici, '06, generously let us have his home for the purpose of serving a supper and getting the crowd together. There were no less than forty-four people present, including members and their families. There had been some notices sent out about a radio program to be broadcast from New York from the Convention, but last minute inquiries brought out the fact that only one station was to be on the air. Fearing the effects of summer static, arrangements were made for a bridge party, which proved highly successful.

This was the largest gathering we have had in recent years. During next winter, in addition to the regular monthly luncheons held at the University Club, we will probably have one or two evening meetings and bridge parties, as the two we held last year were well attended and added slightly to the treasury. — ELTWEED POMEROY, '23, *Secretary*, 3609 Forest Avenue, Kansas City, Mo.

M. I. T. Club of Akron

Two meetings have been held this year. On May 4 about fifty members convened at the University Club where Dean Burton, who was the guest of the evening, outlined plans for the acquisition of new Institute dormitories. The Akron section agreed to give their whole-hearted support to the projects outlined.

The second meeting was held on the evening of September 20. To this meeting the wives and friends of members were invited. After an excellent dinner served at the Fairlawn Heights Golf Club, the remainder of the evening was devoted to the singing of popular Institute songs and to a session of blind bogey bridge. Forty-eight persons participated in the latter. President Brock chose an arbitrary number between 1500 and 2500 to be the bogey and players were asked to take whatever handicap they wished; the handicap to be added to their final bridge score. The numbers closest to the secret bogey were awarded prizes. Brock chose 1907 as the bogey number. Incidentally some of the members guessed that this number would be chosen as it represents our President's Class year. Banking on their hunches that Brock would pick this number, they tried to play accordingly. George Sackett, '18, said he missed out because when his score stood at

1900 his partner was unfortunate enough to make a four spades bid which added 161 points to George's score.

Ladies' first and second prizes went to Mrs. W. A. Shepherd and Mrs. R. W. Moorehouse, respectively. Miss M. Oberdoerster won the booby prize. Men's first and second prizes were won by A. M. Keller, '23, and Tom Knowles, '27. The booby was won by E. Schmidt, '25. A pleasant evening was spent by all. The committee in charge consisted of President Brock, R. Allton, '13, and the Secretary. — HERMAN A. BRUSON, '23, *Secretary*, Development Department, Goodyear Tire and Rubber Co., Akron, Ohio.

Technology Club of Eastern New York

Speaking on the average citizen's duty toward his community, W. W. Trench, Assistant Secretary of the General Electric Company, addressed a group of Technology Club members at luncheon at the Hotel Van Curler. Mr. Trench, who has served more than four years as secretary of the city planning commission, adopted as his text the far-reaching principle that it is by doing, not by talking, that results are accomplished.

After the main speech several questions were asked by Dr. Willis R. Whitney, '90, and other members of the Club, the speaker being given opportunity to enlarge upon his subject in explaining points not already brought out. A short address was made by Oswald Karas, '29, of Schenectady, who two years ago was sent to the Institute on a scholarship fund contributed by the Technology Club, and who has been receiving high honors there both in studies and athletics. Howard Robinson, a junior at the Institute and Howard Richardson, a prospective freshman, were also guests. — L. WETHERILL, '25, *Secretary*, 19½ Governors Lane, Schenectady, N. Y.

Technology Club of Hawaii

The following excerpts from the Honolulu *Advertiser* show that The Technology Club of Hawaii has been active during the summer months in cooperating with other associations of technical interests in Hawaii.

The first, which appeared on July 2, reads as follows: "Ten thousand feet up in the air, above the clouds, taking celestial observations, when their motor sputtered. This was one of the thrills experienced by Lieutenants Lester Maitland and Albert Hegenberger ['17] on their flight to Hawaii. The motor was cold. The weather 10,000 feet high was very cold. They had studied weather reports for months, Lieutenant Maitland told the Engineering Association of Hawaii and the Technology Club of Hawaii yesterday noon at the Commercial Club, and they had figured it out after comparing reports and averages, that they would have good weather all the way. But they didn't. . . ."

"Lieutenant Hegenberger told of the equipment of the plane, and explained that the whole problem was that of shooting from San Francisco to Hawaii within three and one-half degrees. 'We carried more equipment than was really necessary,' he said. 'The flight was a test to ascertain what stage we had arrived at with this equipment we had been collecting.'

"Our flight was not a stunt, but was a scientific problem well worked out," explained Lieutenant Maitland. 'We had splendid equipment; otherwise we would not have landed here. It was an excellent test of fuel economy. Tests had been conducted for five months before we started. Our average fuel consumption was a little over thirty gallons an hour per motor. . . .'

"Horace Johnson ['01], of the Technology Club of Hawaii, told of the course of aeronautics given by the Massachusetts Institute of Technology and reminded those present that Lieutenant Hegenberger is an old Technology man, Class of '17. 'We are proud of your individual effort in this achievement,' said Johnson.

"A. W. Van Valkenberg spoke as chairman of the aviation committee of the Engineering Association, referring to Hegenberger as a member of the Honolulu chapter of the American Aeronautical Association, and told of the assistance he had given toward the establishment of the John Rodgers airport."

The second clipping appeared on July 23: "Dr. Henry S. Pritchett, Head of the Carnegie Foundation, gave a delightful reminiscent talk before the Engineering Association of Hawaii, the Association of Hawaiian Sugar Technologists, and the Technology Club of Hawaii at a luncheon of the three organizations at the Commercial Club yesterday afternoon.

"He stressed the value of personal contacts in business, politics and education, and told stories of his acquaintance with President McKinley that began quite casually and resulted in his first visit to Hawaii with the joint commission just previous to annexation. At that time he was superintendent of the Coast and Geodetic Survey. He referred to his years as President of the Massachusetts Institute of Technology and his pleasant contacts with students whom he now finds in all parts of the world.

"Many of the thirty-six Technology men who reside in the Islands were present at the luncheon and reminiscences were exchanged of old college days. Hugh Howell presided. Greetings were extended to Dr. Pritchett by Horace Johnson for the Technology Club and Sam Peck for the Hawaiian Sugar Technologists, while Judge Walter F. Frear as a member of the joint commission to Hawaii introduced the speaker.

"'Things come about by the relation of personalities,' said Dr. Pritchett, in telling of his intimate relations with President McKinley. 'It is not the abstractions that make business, politics and education.'

"Speaking of the Massachusetts Institute of Technology, Dr. Pritchett, who was its head from 1900 to 1907, termed it as one of the great institutions of our country. 'It is sending out men trained to do useful and fruitful work, combined with minds capable of bringing such work to fruition. Intelligence without character is of very little avail. It is only through a combination of intelligence and character that the world can be improved or brought into prosperity.'

"W. C. Furer ['06], Secretary of the Engineering Association of Hawaii and of the Technology Club of Hawaii, gave a few reminiscences of college life under Pritchett's régime." — W. C. FURER, '06, *Secretary*, 2454 Ferdinand Avenue, Honolulu, T. H.

Books

A review of recent volumes of interest to Technology men

Two Modern Heretics

SCIENCE: LEADING AND MISLEADING, by Arthur Lynch. \$3.00. 376 pages. New York: *E. P. Dutton and Company*.

SCIENCE: THE FALSE MESSIAH, by C. E. Ayres. \$3.00. 296 pages. Indianapolis: *The Bobbs-Merrill Company*.

THE titles of these two books would seem to indicate a similarity of content and intention which is not borne out by their perusal. Mr. Ayres attacks, not so much Science, as Machinery, although he seems to consider them identical. "The sum and substance of science," he writes, "appears to be that it begins in machinery and ends in machinery" . . . and "the function of scientific reasoning is to intermediate between one invention and another." The author's definition of machinery also is unusual in that it seems to include not only machines as commonly understood but also every tool or implement used by man except his body and mind. Mr. Lynch, on the other hand, seems not so much at war with science as with the scientific and learned bodies of Great Britain in particular and the rest of the world in general.

One need not read Mr. Lynch to know that those bodies, being human, are marred by the same hypocrisy, pedantry and self-seeking that mark other human institutions. But when their critic in his book intimates on page after page that he himself is a man of very wide scientific attainment, acquainted in person and through their work with the most eminent scientists of every age and country; when he lets it be known that he is an M.D., an M.P. (member of Parliament) — perhaps other things which this reviewer has missed — and when he informs his readers that he himself has written a book dealing with the "Fundamental Processes of the Mind," upon which all reasoning is built and a knowledge of which would have enabled A. N. Whitehead and Bertrand Russell to produce "a book of value instead of the big tomes of dead material built up of barren conceptions"; when he does these things the reader is apt to conclude that Mr. Lynch knows too much and that his writings should be regarded with skepticism; and to suspect that Mr. Lynch's judgment of scientific and learned bodies would have been more charitable if they had been more recognitive of his attainments.

Nevertheless, Mr. Lynch's book is worth reading. Some of his anecdotes are interesting and amusing. Page 266 may be commended to every American, pages 281-2 to the young man about to seek an education, and to every scientist and educator the scathing but truthful remarks on pages 204, 299 and 366.

If these two books are to be accepted as criteria, the standing of science and scientists is about the same in Great Britain as in America. Mr. Lynch says, science "is little respected for its own work in general, but the scientist is esteemed for the service he can render." Mr.

Ayres states the matter rather differently by saying, "the business men have not been slow about taking over the goose that lays the golden eggs once it reached maturity and began to lay in paying quantities." It must be pointed out, however, that "service" and "golden eggs" are by no means identical.

There can be no doubt that of late years Science has lost much of her modesty and humility. Having learned to lay golden eggs in paying quantity she has begun to cackle. Scientists, too, seem to have joined the great army of touts — presidents, deans and what not, whose legitimate trade it is — in crying up the *value* of their wares, to the limits of indecency. Every one has heard, for instance, that "chemistry won the war," whereas victory was really won by the Holy Spirit of Man fighting indomitably for righteousness. All that chemistry and the other sciences have done is to invent newer and deadlier weapons of offense, and, the war being won, to use this inventive faculty for the *material* progress of man, and for the enrichment of the inventors — the scientists — and their exploiters.

The thesis of Mr. Ayres would seem to be, in general, that the loss to mankind through Science — machinery and invention — far exceeds the gain; that the things of the spirit are being sacrificed to the things of the flesh, and largely through the instrumentality of science. One may, one does, accept the truth of Mr. Ayres' thesis, and yet may regret the fallaciousness of his reasoning and his misconception of the nature of science.

"Science: The New Folk-Lore" is the heading of Mr. Ayres' first chapter. It is well to examine his argument. "Darwin's greatness," he says, "is established by the same folk-lore that establishes evolution. We can hardly say that evolution is true because Darwin discovered it, and then say that Darwin is reliable because he discovered evolution. We do say exactly that, however" . . . and "that is precisely what we find in the case of Moses."

"We" say nothing of the sort. We say the truth of evolution is established (or made very probable) by an array of facts accumulated over a long period of time by Darwin and others, and that Darwin is great, not "reliable," because he had the breadth of vision to see these facts as a whole and to interpret them in an hypothesis which he called a theory of evolution.

Mr. Ayres continues: "When Moses emerged from the cloudy obscurity of Mount Sinai . . . with the stone tablets in his hand, he announced that his laws were based on direct observation. He had gone up to the awful places of the Most High" . . . and "had seen there whatever was to be seen. The credit of science as a body of folk-lore rests upon the same foundations. Scientists emerge from the awful obscurity of their laboratories and announce that these, their decalogues of physics and biology, are based upon direct observation."

In the case of Moses no one of the Israelites, as far as is known, questioned his authority or his statements, which are as true today, and no more so, as when he made them, but in the case of Darwin the chorus of protests and doubts that arose when he displayed his "tables of the law" is still reverberating through the years. Moreover, these protests — those of the scientists, the believers, not those of the bigots — are made, not to induce Darwin to break his tables of stone, but to turn them over and carve better, as truer, laws upon their reverse. The Mosaic laws could never be changed; the "laws" of science can never fail to change into something truer, for no scientist has ever formulated an hypothesis that was not sooner or later questioned, checked, verified, refuted or certainly modified by those who followed the paths which the pioneer had blazed. No one, it seems, ever followed the path of Moses to the heights of Sinai until Mohammed went him one better by ascending to heaven itself for his tablets of bone.

Mr. Ayres says that religions, or folk-lore, like the sciences, are founded on axioms, themselves accepted on the faith that comes from experience. He does not note that "Darwin" is willing, even eager, to discard old axioms for new in the light of wider experience. "Moses," on the other hand, will not admit the possibility of any axioms but his own nor of any change therein. Moreover, the axioms of the sciences are stated as explicitly as each science permits; those of folk-lore, in contradistinction to statements from authority, are never stated.

The names Darwin and Moses have been used to typify the hierarchies of science and folk-lore. For the great body of the congregation, the common man, the case is altogether different. Every man believes that the earth is round, but not one man in ten thousand can give a reason for his belief, except "authority." Indeed, for most men the earth is not round but pretty flat and full of ups and downs. To ninety per cent of mankind, harassed to obtain food and shelter and clothing, the laws of science and of folk-lore seem equally unimportant. He will accept either, or both, if you will let him alone, whether he be a citizen of New York or London or of Rome or Athens in their prime. Yes, to the average man, science is folk-lore, as poetry is folk-lore, as architecture is folk-lore. To the hordes of Americans tramping through the galleries of Europe and pretentiously exclaiming over the old masters, what is art but folk-lore?

But, Mr. Ayres would rejoin, art and poetry and architecture are "humanistic." Indeed he asserts that astrology and alchemy were humanistic because they sought the one to read man's fate in the stars, the other to find the elixir of life and the philosopher's stone, whereas astronomy attempting to unravel the meaning of the universe and to fix man's place therein, and chemistry to find a thousand "elixirs" for the amelioration of life are not humanistic. It is humanistic to seek to lengthen life indefinitely but not humanistic to seek to broaden and enrich the span of life we have. The astrologer and alchemist apparently sought only the enrichment of others, while now "the motives that govern individual scientists can be reduced to venality." As, for instance, one might remark, Pasteur and Walter Reed.

When the scientist uses a compound microscope

instead of a simple lens, it is the improved machine that makes progress. "The real achievement is the invention of the instrument. Any one can take the readings. Thus the facts upon which science rests turn out to be machines." As well might one say that when the painter uses a camel's hair brush and oil instead of a spatula and wax it is the improved machine that makes progress, and the real achievement is the invention of the camel's hair brush. Any one can do the painting! "Thus," says Mr. Ayres, "the sum and substance of science (painting) appears to be that it begins in machinery (paint brushes) and ends in machinery (paint brushes)," and "science (painting) as a body of law (aesthetic) is quite incapable of propagating itself." One really must conclude that Mr. Ayres proves too much.

Nevertheless, Mr. Ayres' book is worth reading. Indeed, it should prove a valuable corrective to the increasing conceit and boastfulness of the hangers-on and apologists of science. The scientist "creed" (page 129) may, as the author says, be "blasphemy," but it is also humor, and the list of "theses to be nailed to the laboratory door" (page 294) contains much truth worth pondering. The book is valuable in that it points out the evils of industrial civilization and the dangers of machine domination, though not as brilliantly or as logically as Samuel Butler, whom the author imitates, in "Erewhon." The chief fault of the book lies in that it holds science wholly responsible for these evils and dangers, forgetting that, in the end, human nature bends science, religion and art to its own purposes. Every man interested in science, education and progress — other than material — should read Mr. Ayres' book. Even then it may be doubted if "Science: The False Messiah" will prove a best seller.

L. MAGRUDER PASSANO

Places and People

LOAFING THROUGH THE PACIFIC, by Seth K. Humphrey, '98. \$3.50. 306 pages. New York: Doubleday, Page and Company.

Surely Mr. Humphrey's book will not go well in California. San Franciscans will minimize his achievements since he embarked on this fifteen-month loaf from the seaport of Los Angeles; the Los Angelese will bitterly resent his strictures on page four. Elsewhere the book (and the strictures) ought to meet with approval.

The author did not set out to write a travelogue any more than did he journey by a carefully documented itinerary. The latter was impossible and anyhow, he says, "My aim, while wandering through the tropics, was not so much to 'improve each shining hour' as to let the shining hours improve me." Not having had the opportunity of a critical after-study of the author in the flesh, this reviewer is unable to say just how much improvement was effected, but it is evident that he did expose himself to many shining hours, and to some, as at Pango-Pango, which were not very shining. And the way he writes about them is beneficial to the intellects of his readers and to their dispositions.

Technically the loaf began in Honolulu; actually the stay there was a busy period. Upon landing, Waikiki Beach by trolley was the first objective. It was a disappointment! Except for the surf-riding he was unimpressed, but he did get the chance for a first full-scale test study of "peoples" and "browsing among peoples" which was Mr. Humphrey's chief desire.

What he says about the scenery, the industries, or the climate of the Hawaiians is all very well, but when he takes up human interest stuff his keen observations provoke some reflective thinking. While he may propound no cure for "the racial situation 'stumps' the oldest in-

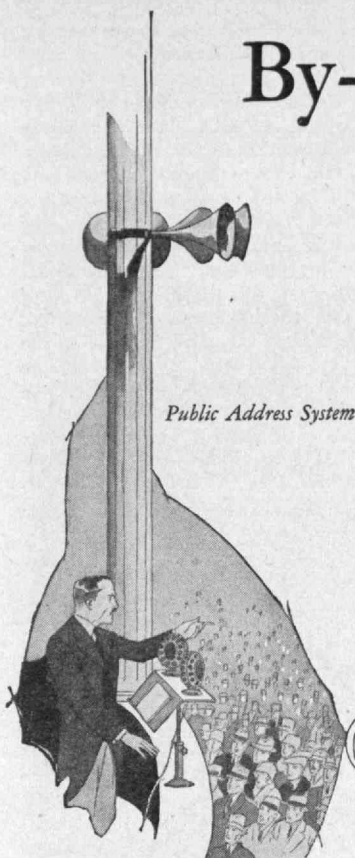
(Continued on page 64)

By-products of your telephone

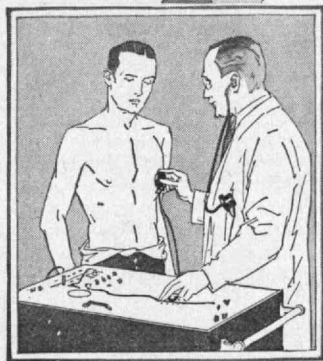
THE microphone, familiar to the radio world, has been called "younger brother of the telephone."

It is but one of a family of products which owe their existence to the communication system engineers and to the men who made your telephone at Western Electric.

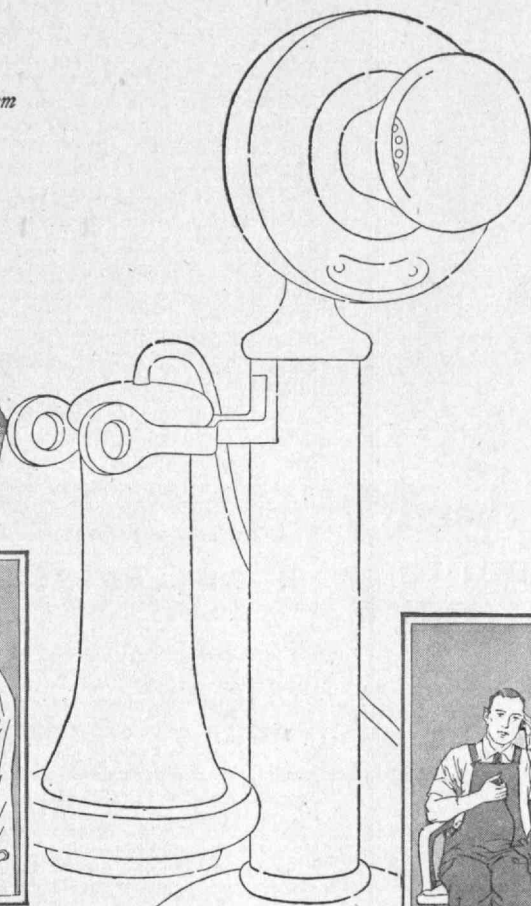
Forty-five years' experience as manufacturers for the Bell System has brought not only a telephone that is the world's standard, but also a Vitaphone to give a voice to the motion picture screen; an Audiometer to test the hearing with accuracy never before possible; an Audiphone which gives new aid to the hard of hearing; an Electrical Stethoscope to amplify the faintest heart sounds; a Public Address System to carry a speaker's voice to crowds of thousands and tens of thousands.



Public Address System



Electrical Stethoscope



Audiometer



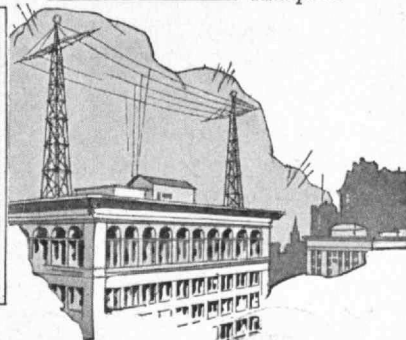
Audiphone



Vitaphone



Radio Telephone



Back
of your
telephone

Western Electric

SINCE 1882 MANUFACTURERS FOR THE BELL SYSTEM



Every building in this composite picture is an actual Dunham Installation

The Dunham Trap has been built for 25 in. vacuum to 25 lbs. pressure since 1925!

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Continued from page 62

habitant," and "only Congressmen who come here and stop over one boat know what should be done about it," he does point out a reasonable and probable solution.

Seven days of steaming — 2,500 miles — due south of Hawaii was the next stop — Pango-Pango, American Samoa, "one of the best sheltered harbors in the Pacific, and admitted to be the most beautiful." Travelers are subjected to stringent regulations, for it has been occupied by the United States as a naval base since 1875 although, according to Mr. Humphrey, "of what earthly use it is to us, no one outside of a uniform is able to conjecture." However, upon getting ashore, he was treated courteously by the Navy "in little matters," enjoyed a special exhibition of the *siva-siva*; but did not relish "Pango's Astoria" for "as a bit of civilization, that hotel was a false alarm."

After American Samoa, came British Samoa, and from Apia by the monthly steamer, 500 miles further south for August, among the Tongans — the only independent native kingdom left in the Pacific — and September with the Fijians.

Tonga's carefree happiness proved pleasant as an interlude, but a "year of it would be like sitting down to a barrel of candy." Suva, Fiji, cannibal capital of fifty years ago, evidenced white man's culture in "the most palatial hotel, if not the most palatable chow, in the South Pacific." In Fiji are three totally unlike "peoples": 85,000 Fijians, now reduced to a "singularly placid, aimless, church-going race"; 61,000 Indians, "imported labourers"; 3,900 whites. Truly "islands of the top-heavy triangle; close to 150,000 alike in colour if in nothing else," resting "on a little white base of 3,900. It's a beautiful place and a glorious climate — for the tropics. . . . But if things should happen to break loose in India, I would not care to be in Fiji."

Then off to New Zealand via the tourist-freight ship, *Tofua*, for October, there the beginning of spring, and a taste of chilly weather after seven months in the tropics, with Rotorua, Maoris and the Waitomo Caves, perpetually lighted by millions of glowworms, as chief items on the docket. From Auckland across to "White Australia" for a hasty peek, after which sixteen days on a Japanese liner bound for Manila.

In the Philippines as good a chance to observe "peoples" as anywhere; all kinds from little brown Moros and lowland Ilocanos and Tagalogs to dog-eating upland midgets, the Igorots — not forgetting the *mestizos*, "a term applied to half-castes or better, whether the infusion is Chinese or White."

Mr. Humphrey blasts one altogether too popular misconception: "Suppose we were to give independence. The big plum of political control would fall squarely into the *mestizo* lap. By no stretch of the imagination can any one who knows think that any bit of it would get past the *mestizos* to the Filipinos." The American people should not "be fooled into thinking that independence for the Philippines means independence for the Filipinos."

Successive chapter titles — Hong Kong, Canton, Peking, Korea, Japan — indicate the route from Manila to Yokohama at the earthquake-rumpled dock of the *Empress of Australia*, where the loaf ended.

He who lays down this book wishing for more may some day have his hope gratified, for Mr. Humphrey has been loafing in Africa this past spring and summer. And, too, the African book may have nice, helpful end-paper maps as do most good travel books.

H. E. L.

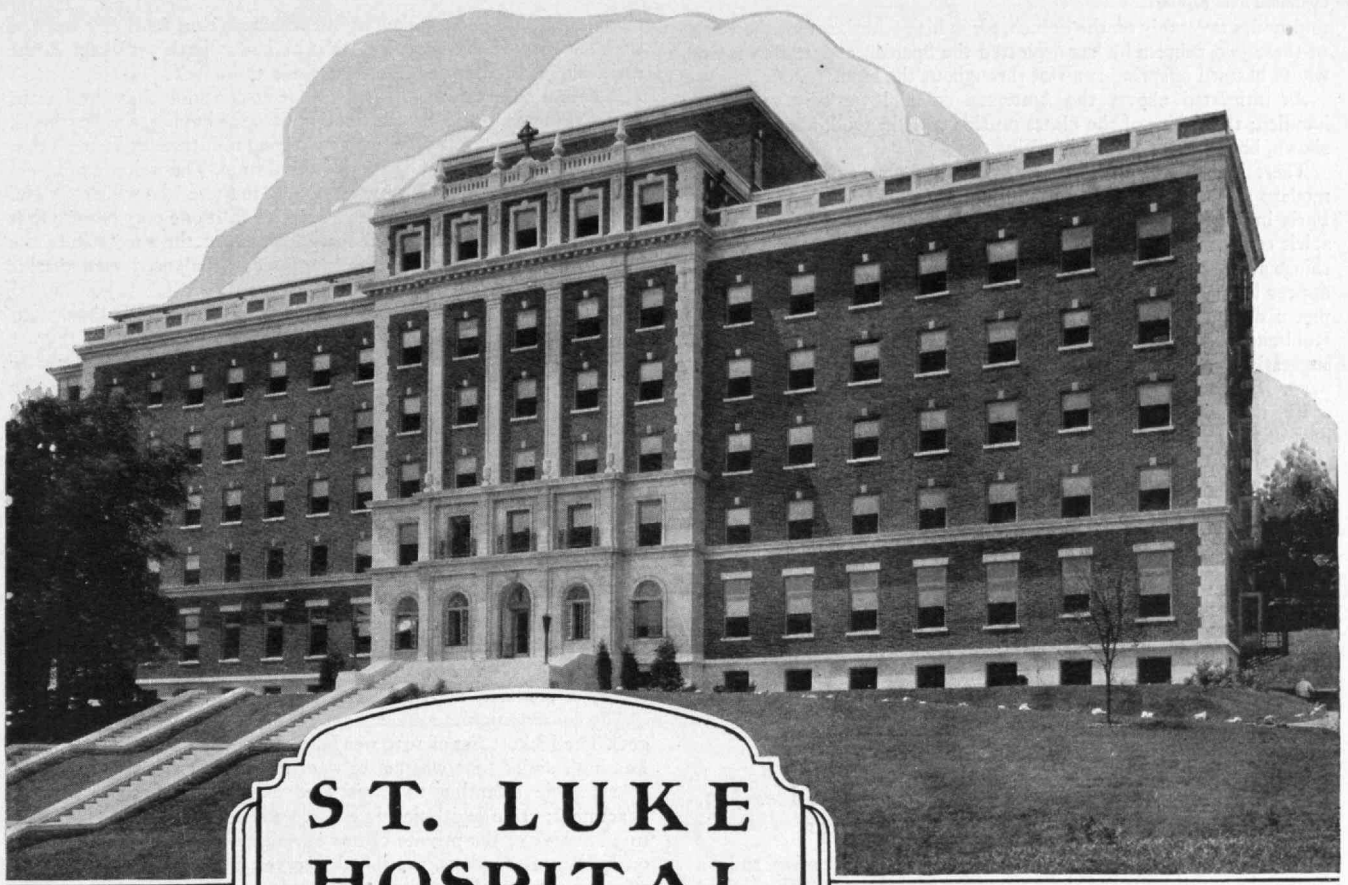
The Houses We Live In

TREATMENT OF INTERIORS, by Eugene Clute. \$6.00. 208 pages. New York: Pencil Points Press.

The title of the book covers the greater, and perhaps, the more important part of architecture. It is in the interior of buildings of one kind or another that we pass the major portion of our lives; they confine us or liberate us. There is a close parallel between the forest home of the European barbarian and the cathedral that he built when he became a town-man. Both have the same feeling of freedom, and it is only we who have lost that desire for freedom who are content within the narrow, low confines that we are creating for ourselves. We build loftily from the exterior, but gone are the tall and ample interiors of the past. They cost too much and are wasted space for the soul whose need for them is gone.

However, the present book, no matter how far reaching may be its title, is strictly limited in scope, its range covering rather well the American efforts, early and late, to continue the English residence tradition in the new land. Evidently the author is fond of the English

(Continued on page 66)



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JOHNSON

HEAT CONTROL



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Architect
Walter S. Gillham
Engineer
Arthur McKinley
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ing Co., Contractors

Continued from page 64

and smiles favorably on the French, for in his enthusiasm for the work of these two peoples he has neglected the Spanish and Italian styles whose bastard offspring run riot throughout the land.

As intimated above, the American colonial work is very well handled; the choice of the plates on this style is good, and the work shown, both new and old, is inspiring.

There is a great deal of pure junk in the plates on the so-called modern style: to one having seen the Decorative Arts Exposition in Paris in 1925 it seems that a better representation of the modern spirit could have been had. There were, among the unutterably bad things at the exposition, several interiors of rare charm, none of which appear here. As for modern furniture, Mr. Clute has chosen several pieces of unusual beauty among which are two cabinets, one by Ruhlman and one by Paul Fallot. The layman may find valuable suggestions for the use of tapestries, batiks, wrought iron, and wall paper with fair illustrations of each.

But the book's greatest value is for the architect. It gives no drawings of mouldings and thereby prevents the draftsman in his office from cribbing cold the profiles shown. He must then use his own mouldings and the result is generally so bad that the architect will be forced to save his reputation by devoting some of his own time to the design of these important elements.

Mr. Clute is a firm believer in the ability of American architects, who, by their eclectic methods, are going to produce great art or at least good taste. The former is more improbable. The above-mentioned draftsman would profit greatly if a bibliography of the works mentioned were attached. Most of these works have the drawings, details and moulding profiles that he needs.

ROBERT C. DEAN, '26

An Economist on Oil

THE UNITED STATES OIL POLICY, by John Ise. \$10. 547 pages. New Haven: Yale University Press.

This thoroughgoing volume is the second of what promises to be a set, occupying the author's time since the appearance of "The United States Forest Policy" in 1920. Some significant observations are to be

made: first, that he has taken up the resources thus far in the order of their severity of abuse; second, that he has so basic a subject as the rationale of conservation almost entirely to himself.

A casual observation might lead one to conclude that the United States is more notable for not having, than for having, a policy in oil. The hope that past mistakes may be turned to future profit, is all that saves this story from being completely dismal. The writer's mildness and careful reasoning will appeal strongly to those who will study him in any event, but it might mislead a novice. But one may be sure that Dr. Ise went through the hair-tearing stage, at the spectacle of the history of the resources, before he attained a balanced view of this trying problem.

It is an anomaly that the conservation movement grows calmer with advancing years, despite the fact that the resources grow thinner and that alarmists have, in general, an increasingly pertinent excuse for existence. But, as the author shows, the industry always has the most tangible evidence on its side. Just when the forces favoring moderation in the business of goading nature had been talking as never before about oil shortage—during the war and after—the greatest flow of all was let loose, and as much has been mined since as in the whole previous history. Who was there then to hear the conservationist shout his warnings? Perhaps he talked too much about shortage and not enough about good sense. However, in the main it is due, this mildness, to the growing realization of the depth of the well-rooted reasons for American prodigality—an irreparable resource versus a nation interested in nothing but prices; an ultimate good overwhelmed by the easy doctrine of public good attained from the selling end, supported by the threadbare, but firmly entrenched, theory of economic individualism.

The conservationist asks less and less and is pleased with what he gets. The Pickett Act of 1910 was better than the Placer Law, and the Leasing Law of 1920 was better than the Pickett Act. Dr. Ise gives considerable attention to these land and mining laws and their enactment; state legislation is considered at some length. The confused history of the private claims on public lands is discussed—oil on Indian reservations, the naval reserves, systems of taxation, the effective work of the government technical bureaus.

(Continued on page 69)

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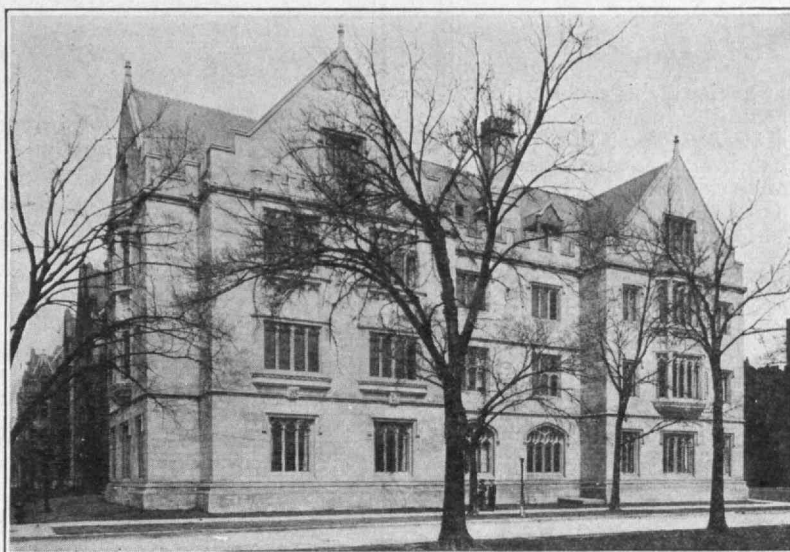
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Continued from page 66

As for oil from privately-owned lands, centralized regulation has come down to a few attempts at pooling of interests toward the development of fields with some reference to the geological necessities — unit operation, so-called. Except in a very few cases these attempts have not amounted to much. The ideal embodied in anti-trust legislation has been attained; individualism the rule, socialism denied; — the frequent result, anarchy. This story is recounted at due length, and what improvements there are, noted; the general history of the industry, and the prospects for oil substitutes and for foreign oil, are gone into.

Much of the material is not vitally new, but the compilation includes much that is not readily available in books and papers on oil. The general arrangement, together with the presentation of the theory of conservation, makes this piece of work a genuinely important contribution.

Conservation is a problem for the economist, not the engineer. Waste is here seen in terms of unimportant uses, overproduction, encouragement for more drilling when there is too much oil on hand, unnecessary duplication of operation, waste of capital and human labor, speculation. The United States has sold the world its oil for two generations on a buyer's market and must shortly turn about and buy back her own supply at the seller's terms — these factors are seen, as well as the bald physical wreckage. The economist must lay down the terms for intelligent use — the one point of attack for conservation.

How can the intrinsic value of unreplaceable natural necessities be interpreted via dollars? Dr. Ise has gone into this subject, previously considered by only a few, and he offers valuable suggestions; yet he faces an organic contradiction. He has tried to make saving look like spending. Some of his devices are sound, but his difficulty is really insurmountable. To save is, after all, to save. It means less "doing," less traffic, higher prices, fewer millionaires. Neither the buyer nor the seller can "see it." The paradox of the life of one who would think in terms of the unique values of nature, or in terms of the needs of a future as distant as a decade, is that he stands for something which is a rank absurdity to a world scrambling for what is

known as prosperity. Turn loose in a day what took ages to manufacture, an energy capital of Nature's wares, and you get prosperity, naturally, and plenty of it. The conservationist may well speak softly when he asks modification of this ideal.

DAVID L. FISKE, '20

For the Radio Fan

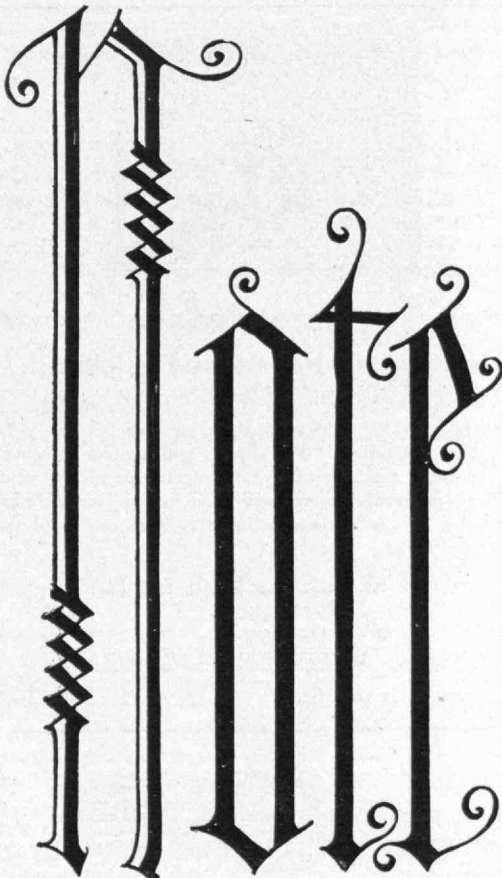
THE ELEMENTS OF RADIO-COMMUNICATION, by O. F. Brown. \$3.50. viii+216 pages. New York: Oxford University Press, American Branch.

The foreword to this volume, by Admiral of the British Fleet, Sir Henry B. Jackson, concisely presents the author's problem of writing a non-mathematical treatise covering the wide and varied field of present day radio communication. The author has maintained a clear and simple presentation and has covered the main points of his subject without the detail which is so confusing to the non-technical reader. While the terminology involves the technical names given to various devices and the use of some technical description in explanation of their operation, in the main, these terms have become thoroughly familiar to the average owner of a good radio receiver. A translation of some of these terms is needed, since many equivalent expressions in England and in the United States are not at all similar.

Covering briefly an historical outline of the inception and development of practical radio communication, the author passes to a discussion of the production of high frequency oscillations and the radiation of electromagnetic waves into space. These discussions serve to acquaint the reader with a general picture of how radio communication with distant points may be accomplished, without confusing detail of equipment and technique.

Of particular interest at the present moment in this country is the author's discussion of faithful reproduction of speech and music, since emphasis in modern radio engineering design is largely centered on the quality of reproduction and simplicity of operation in radio

(Continued on page 71)



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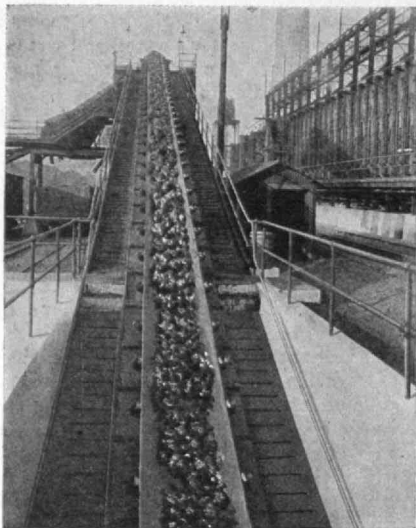
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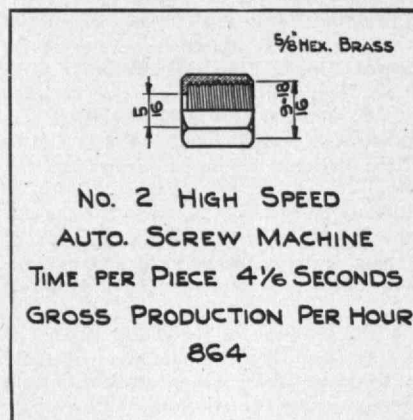
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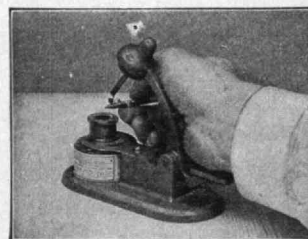
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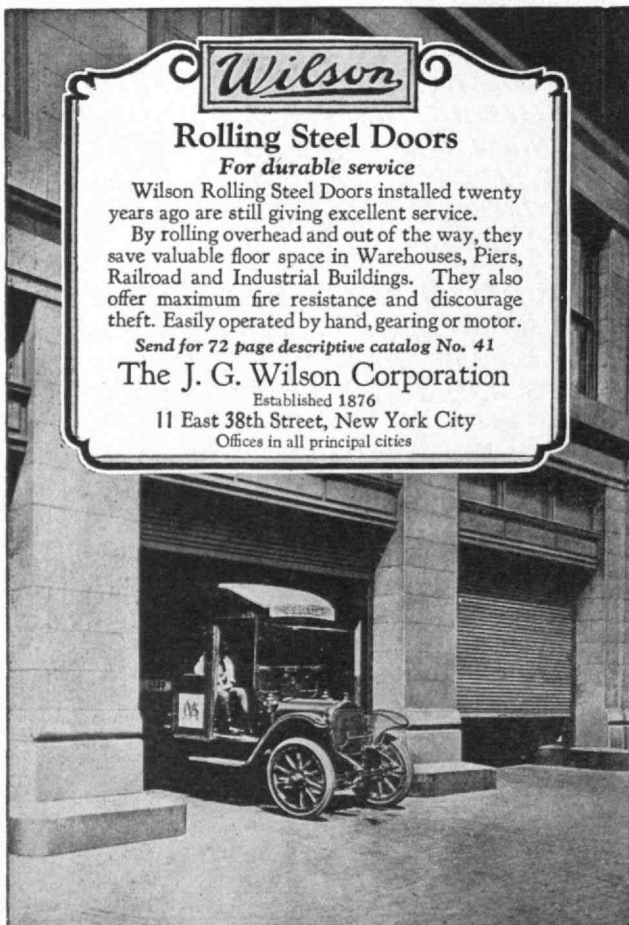
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Continued from page 69

reception. In this section the sources and causes of imperfect reproduction throughout a radio tele-system — from the microphone at the transmitter to the loudspeaker at the receiver — are quite fully discussed.

In the material on the origin and nature of atmospheric disturbances, which sometimes sorely try us in the enjoyment of good radio programs, the writer touches a field which has received but little attention in our own popular radio press. Thunderstorms cause disturbances which may interfere with reception at distances as great as 2,000 miles. Such storms have been followed by radio direction finders in England while they moved from the Hebrides across Europe to the Black Sea. The main sources of static, as indicated from an extended study by direction finders, lay in southern Europe and North Africa. In this country the active area seems to lie in and westward of Texas.

To the radio listeners who are interested in knowing more of the "why and how" of the operation of their receivers, to the amateur, and to those who are interested in the general field of radio communication, but who do not have the training or the desire to delve into the subject with rigid regard to detail, the book offers an entertaining and instructive treatment.

JAMES K. CLAPP, '23

Compendium

VAN NOSTRAND'S CHEMICAL ANNUAL, by John C. Olsen. 6th Edition. \$5.00. xv+882 pages. New York: D. Van Nostrand Company.

In this, the sixth edition of Van Nostrand's Annual, the editors have used tolerably good judgment in the selection of new material. Comparatively few new tables have been added, but the old data have been recalculated to conform with changes in atomic weight, and so on. The added material includes tables of isotopes, hydrogen ion concentration and hydrogen ion values, specific gravity and solubilities, isoelectric points of proteins and pressure of aqueous vapor of hydrated salt system, as well as comprehensive tables of the physical properties of lead and mercury. Much of this material will probably prove to be unreliable or useless due to the state of flux in these fields and poor selection on the part of the editors. Instances of this latter are shown in the table of "color reactions of indicators in solutions of different hydrogen ion concentrations" in which scarcely any of the newer indicators are given. Surely the profound changes in this field since 1915 cannot have escaped the editors!

While a table of "pressure of aqueous vapor of hydrated salt systems at 25° C" appears, no table of the vapor pressure of saturated salt solutions is to be found. Many of the electrode potentials at 25° C have been determined more accurately than indicated by the table in the Annual. The tables of physical constants of inorganic compounds and of organic compounds offer some room for improvement; thus tertiary butyl alcohol is not listed as a butyl alcohol but as trimethyl carbinol. The organic tables might easily be expanded to include such data as refractive indices.

The excellent typography and improved index make for accuracy and speed in using the Annual. For a handbook of its size, the references to the original literature are unusually complete — an excellent feature. Many of the specific gravity tables of aqueous solutions are particularly well done.

The edition is dedicated to the late Svante Arrhenius.

W. H. STRAIN, '26

In Tabloid

ON THE OLD ATHABASCA TRAIL, by Lawrence J. Burpee. \$4.00. 259 pages. New York: Frederick A. Stokes Company.

In 1797, at the age of twenty-seven, David Thompson, finding the Hudson's Bay Company opposed to his making surveys and trading at the same time, left its services and entered that of the "Company of the Merchants from Canada." This was the North West Company of such daring spirits as Sir Alexander Mackenzie, who reached the Arctic Ocean in 1789 by the Mackenzie River and crossed overland to the Pacific in 1793, and of Simon Frazer, who explored the Fraser River from Fort George to its mouth in 1808.

Both companies traded in that portion of Alberta which now forms the largest of the Canadian National Parks and takes its name from the town of Jasper which lies about 200 miles west of Edmonton near

(Continued on page 72)



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Continued from page 71

the British Columbia line, just below the confluence of the Miette River and the Athabasca. Up this latter went the old Athabasca trail.

In 1811 Indian hostility caused the Hudson's Bay Company to drop out of the western trade, but the North Westers were not to be stopped in this fashion. In an endeavor to cross the mountains by a new way, David Thompson went up to the headwaters of the Athabasca, where after terrible hardships he found the pass which bears its name and was for years the chief trans-mountain route.

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THE ELEMENTS OF MINING SCIENCE, by David E. Thomas. \$1.50. 80 pages. New York: *Oxford University Press, American Branch.*

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Reviewers In This Issue

L. MAGRUDER PASSANO is the author of several books on mathematical subjects and a play by him is soon to be published. He is an Associate Professor of Mathematics at the Institute.

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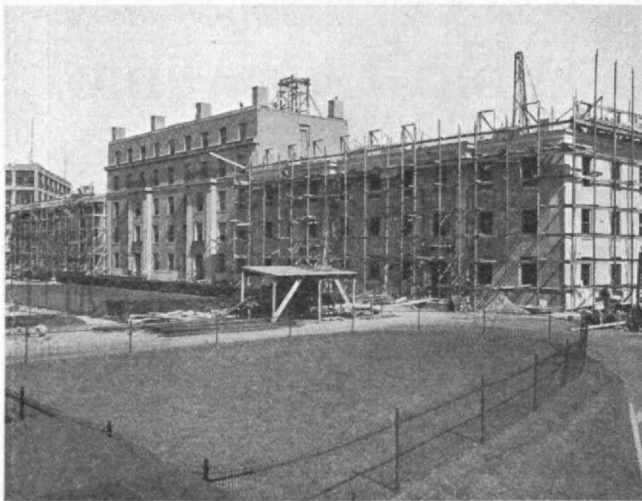
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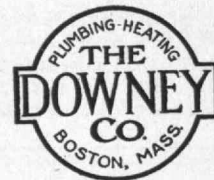
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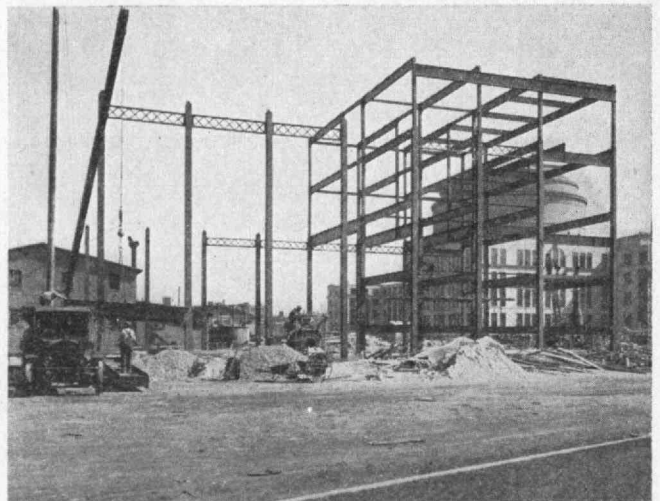
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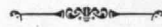


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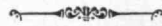
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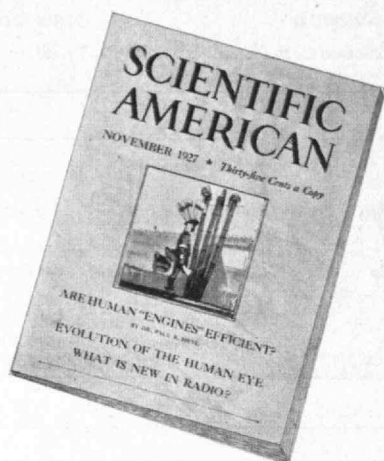
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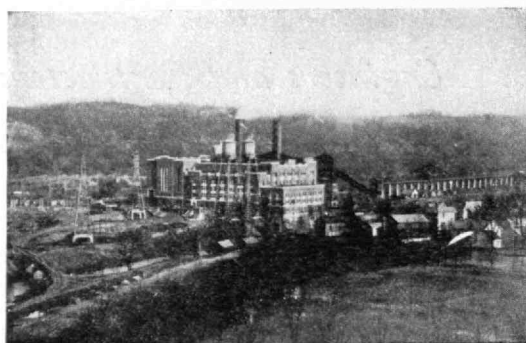
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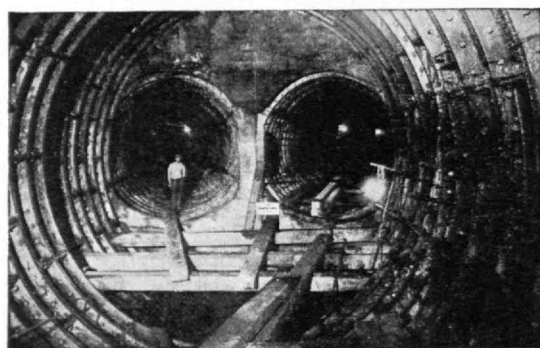
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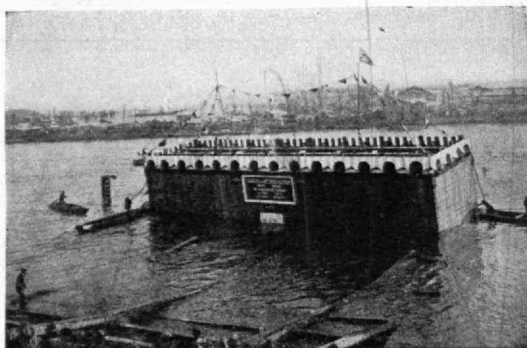


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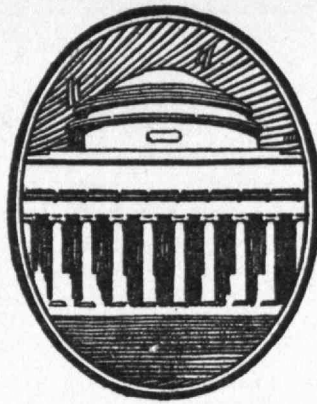
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